# The #1 Source of Electronic Components for Inventors, Hobbyists & DIYers

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Fall 2004 Volume 644

COLOR CODE LEGEND...
NEW SALE REFURBISHED CLOSEOUT

Holiday Gift Idea

NEW

## Listen and learn with this "old-school" easy-build kit!

Talk about a super gift for a junior engineer! This kit teaches the fundamentals of radio and electronics, and the rewarding result is a real receiver that uses no batteries or external power. Like the crystal sets that gave many great thinkers their first taste of technology, this kit delivers hands-on learning. Its 32-page Experiment Manual includes 20 activities to challenge young minds. Comes complete with all components, and clear step-by-step instructions that introduce the fascinating world of radio broadcasting and reception.

| Part No. | Description | Kit Pieces | Difficulty Level | Price |
|---|---|---|---|---|
| 307707ER | Detector Radio kit | 35 | Beginner | $22.95 |

*Do-It-Yourself Kits for the Holidays — More Kits on Pages 98-105 & 110*

## 30-Watt Digital Benchtop Power Supply

- Single output with adjustable 1.5VDC to 30VDC
- 1A fixed current output
- Large digit backlit display
- Overload and short circuit protection
- Input voltage: 85-264VAC @ 47-63Hz
- Compact design
- Output terminals
- ON/OFF switch

NEW

| Part No. | Product No. | Size (LxWxH) | Weight (lbs.) | Price |
|---|---|---|---|---|
| 301971ER | PSU-130 | 5.5" x 5.2" x 1.6" | 1.2 | $79.95 |

Holiday Gift Idea

***Be sure to check out Jameco's holiday picks throughout the catalog — Look for the Red Ribbon!***

Holiday Gift Idea

## Variable High-Speed Rotary Tool Kit

Holiday Gift Idea

A multiple high-speed rotary tool kit with 6-speed selections ranging from 8,000 to 30,000 RPM, along with 40 bits and accessories, provides you all the power and precision you need to tackle almost any cutting, drilling, polishing, sanding or engraving job. With its high-speed output, plus a nylon body, you can grasp the tool lightly to perform fast rough work or delicate craftsmanship. A convenient shaft-lock button provides fast-and-easy accessory bit changing.

SALE

- 9" long variable-speed rotary tool
- 2 felt buffing pads
- 6 disk sanding pads
- 4 rotary files
- One-year manufacturer's warranty
- Drum sander wheel
- Grinder dressing stone
- 7 disk grinders
- 2 drill bits
- 3 drum sander pads
- Disk sanding arbor
- 10 rotary grinders
- Wrench

| Part No. | Description | Price |
|---|---|---|
| 211289ER | Rotary tool kit | Was ~~$44.95~~ $42.69 |

## Service Is Key!

To be your #1 source, we know service is important. That's why we're available 24/7, offer friendly, knowledgeable technical support, and ship all orders on the same business day when placed before 6 PM EST. We hope you'll continue to reap the benefits Jameco offers.

SERVICE YOU CAN TRUST

## Perma Seal RCA/BNC Connectors

292102ER 292205ER 292313ER

STEREN NEW

292410ER

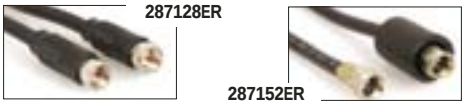
**Use the color code chart below to replace the "xx" when ordering:**

| | | |
|---|---|---|
| 02 – Red | 04 – Yellow | 05 – Green |
| 09 – White | 10 – Black | 13 – Blue |

e.g. 292102ER – **2921** is the Jameco designation for RCA RG-59 plug and **02** is for color red.

| Part No. | Description | 1 | 5 |
|---|---|---|---|
| 2921xxER | RCA RG-59 plug | $1.59 | $1.49 |
| 2922xxER | RCA RG-6 plug | 1.59 | 1.49 |
| 2923xxER | BNC RG-59 plug | 1.89 | 1.79 |
| 2924xxER | BNC RG-6 plug | 1.89 | 1.79 |

## RG-6 75Ω Patch Cables



287128ER 287152ER

**297668ER**: F cable with ground wire NEW

| Type | Length (ft.) | Part No. Black | Part No. White | 1 | 5 |
|---|---|---|---|---|---|
| RG-6 | 3 | 286977ER | 287232ER | $1.69 | $1.59 |
| RG-6 | 6 | 287101ER | 287241ER | 2.29 | 2.15 |
| RG-6 | 12 | 287128ER | 287259ER | 3.69 | 3.49 |
| RG-6 | 25 | 287152ER | Not Available | 6.99 | 6.65 |
| RG-6 | 50 | 287179ER | 287275ER | 13.49 | 12.75 |
| RG-6 | 75 | 287208ER | 287291ER | 18.99 | 18.15 |
| RG-6 | 75 | 297668ER | Not Available | 14.69 | 13.99 |
| RG-6 | 100 | 287224ER | 287304ER | 24.99 | 23.75 |

## Cable Clips

These nail-in cable clips are designed for use with RG-6 cables.

- For RG-6 type cables
- Includes 1" nail
- Prepackaged in increments of 100

295591ER 295611ER

| Part No. | Description | 1 Pkg | 10 Pkgs |
|---|---|---|---|
| 295603ER | Single RG-6 cable clip, white | $3.39 | $2.79 |
| 295591ER | Single RG-6 cable clip, black | 3.19 | 2.65 |
| 295611ER | Dual RG-6 cable clip, white | 3.65 | 2.99 |
| 295620ER | Dual RG-6 cable clip, black | 3.65 | 2.99 |

## Professional Microphone (XLR) Cables and Adapters

NEW

305251ER 305285ER 305293ER

| Part No. | Description | 1 | 10 |
|---|---|---|---|
| 305251ER | 3-pin **F** - **F** gender changer | $7.49 | $6.99 |
| 305200ER | 3-pin **M** - **M** gender changer | 7.49 | 6.99 |
| 305285ER | 1/4" jack to 3-pin **F** XLR adapter | 8.95 | 7.95 |
| 305277ER | 1/4" jack to 3-pin **M** XLR adapter | 7.95 | 7.15 |
| 305293ER | 1/4" jack to 3-pin XLR **F** cable, 20' | 10.39 | 9.85 |
| 307694ER | 1/4" jack to 3-pin XLR **F** cable, 60' | 20.95 | 19.85 |

## Wireless RF Keyboard and 3-Button Optical Mouse

Holiday Gift Idea

This stylish Labtech® wireless desktop keyboard combines a wireless multimedia keyboard with a 3-button optical wheel-scroll mouse that provides you with an unprecedented level of desktop freedom. With multimedia keys at your fingertips, you can play CDs, MP3 files, and DVDs. Mute and change volume settings with ease. Refresh the screen, connect to your default email provider, or go on the web with just a push of a button. The optical mouse has an 800dpi advanced optical technology that allows you to work on most surfaces.

NEW

**Includes**: Installation guide, 4 AA batteries for mouse and keyboard, CD-ROM drivers.

**System requirements**: IBM or compatible system, available PS/2 port for mouse and keyboard, Windows® 95/98/ME/NT/2000/XP, CD-ROM drive

| Part No. | Description | Keyboard Size | Mouse Size | Price |
|---|---|---|---|---|
| 308101ER | Wireless keyboard and mouse | 18"L x 8.7"W x 1.6"H | 4.9"L x 2.8"W x 1.5"H | $37.25 |

## A great bargain 2000-count multimeter for just $13.95

Holiday Gift Idea

A full-featured multimeter with the basic functions needed for testing electronic equipment.

**Compared to simpler models this DMM features:**

- Greater resolution: 100uV max.
- Large 0.6" LCD backlit display
- Data hold switch, backlight button
- **DC voltage ranges:** 200mV – 600V
- **DC current ranges:** 200uA – 10A
- 7 function / 17 ranges
- Transistor $h_{FE}$ test
- **AC voltage ranges:** 200V – 600V
- **Resistance ranges:** 200Ω – 2MΩ

| Part No. | Description | Size | Price |
|---|---|---|---|
| 220759ER | Meter w/ diode & $h_{FE}$ test | 5.4"H x 2.7"W x 1.2"D | $13.95 |

## Motorized wooden kits, ideal for your child.

Holiday Gift Idea

Your child will love building these kits and watching them walk. These kits come with "kid friendly" pre-punched wooden parts, gearbox, gears, shafts, switch, motor, and battery holder. A marvelous educational science project for ages 8 and up, and a great way to learn about gears and transmissions. These kits require no glue or soldering, just a few simple hand tools, and 2 AA batteries (not included). Your kids will be building these kits in no time.

- Gear driven transmission
- Requires: knife, screw driver, and long-nose pliers

| Part No. | Description | Price |
|---|---|---|
| 242915ER | Stegosaurus kit | $16.95 |
| 242923ER | Tyrannosaurus kit | 16.95 |
| 242894ER | Skeleton kit | 16.95 |
| 249210ER | AA batteries (pack of 4) | 2.56 |

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See detailed Product Index on pages 108 & 109


Integrated Circuits .....5-13

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### PRICES

Prices are effective 10-11-04.
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## Here's What's New

Over 720 Products Added!


Audio & Video ..... 87-92
Batteries..... 46
Computer Products..... 3, 111
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Fans ..... 42 & 43
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LEDs & Displays ..... 16, 17 & 50
Power Products ..... 38-41
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Relays ..... 26 & 27
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***Save up to 50% now on selected products!***

Look for Jameco's holiday picks throughout the catalog, marked with the ***Red Ribbon***. We have slashed prices just in time for the holidays so make sure you pick up those stocking stuffers today!

Holiday Gift Idea

At Jameco our goal is to provide you with more of what you want at unbeatable prices. Let us know how we can better serve your electronic component needs as an inventor, hobbyist or DIYer. Please send requests to AtHome@Jameco.com.

COLOR CODE LEGEND...
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Come to Jameco for popular electronic components, computer products, test equipment, and our latest selection of products for your home and personal use; all at unbeatable prices. You can also find those elusive and frustratingly hard-to-find items, and even some out-of-production parts, too! Join the multitudes of happy Jameco customers... You'll be glad you did.

**The Color Code Legend...** For easy reference we have included this color code legend on every page.

COLOR CODE LEGEND...
NEW SALE REFURBISHED CLOSEOUT

**Find New Products Quickly...** Look for the part numbers in **magenta**.

NEW

**Save on Sale Items!...** Sale products are highlighted in yellow and orange, so you can identify items whose prices have been reduced in all quantities.

SALE

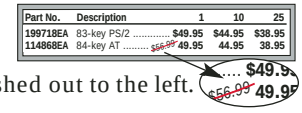
**Last Chance Opportunities...** Unfortunately we're not always able to restock certain products. In this case we'll print **blue** part numbers, so if we know there's limited stock, you'll also know.

| Part No. | Product No. |
|---|---|
| 155643 | DC603F1 |

**Hard-to-Find Products...** Some products are no longer produced, and yet we know you need them. That's why we occasionally offer pulled or refurbished products. Pulled part numbers are clearly printed in **purple** and refurbished in **brown**. Each is backed by our standard Jameco warranty.

| Part No. | Product No. |
|---|---|
| 25101 | MC146818 |

**Jameco's Price Reductions are Substantial...** Rest assured your savings are not just numerous. They're significant too! Look for former prices slashed out to the left.




## Jameco's Low-Price Guarantee

Happen to find a like product at a lower print-advertised price? We'll beat that price by 10%. It's that simple!

### Our Low Price Guarantee Doesn't Get Much Use...

... And we like it that way. We take our Low-Price Guarantee seriously, so we search around the world to identify the sources for the lowest prices for our high-quality products. In fact, we have a team of people dedicated to making sure we have the lowest prices available.

## The Jameco Advantage...

### We'll Beat Their Prices by 10%!

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Thousands of new ICs are in the pipeline for addition and not shown below. Call us to see if you can save 10-20%.

## EPROM

More @ www.Jameco.com/EPROM

| Part No. | Cross Ref. | Pins | Description | 1 | 10 |
|---|---|---|---|---|---|
| 39909ER | 2708 | 24 | 1k x 8 8kB 450ns (±5V, +12V) | $4.99 | $4.29 |
| 40002ER | 2716 | 24 | 2k x 8 16kB 450ns (25V) | 4.09 | 3.69 |
| 39706ER | 27C16 | 24 | 2k x 8 16kB 450ns (25V) CMOS | 6.99 | 5.99 |
| 40011ER | 2716-1 | 24 | 2k x 8 16kB 350ns (25V) | 6.49 | 5.89 |
| 114876ER | 2732B | 24 | 4k x 8 32kB 450ns (12.5V) | 4.19 | 3.79 |
| 33591ER | TMS2532A | 24 | 4k x 8 32kB 450ns (21V) | 3.99 | 3.59 |
| 40096ER | 2732 | 24 | 4k x 8 32kB 450ns (25V) | 6.49 | 5.49 |
| 40133ER | 2732A-45 | 24 | 4k x 8 32kB 450ns (21V) | 3.99 | 3.69 |
| 39765ER | 27C32 | 24 | 4k x 8 32kB 450ns (25V) CMOS | 5.49 | 4.19 |
| 40125ER | 2732A-25 | 24 | 4k x 8 32kB 250ns (21V) | 4.99 | 4.49 |
| 40109ER | 2732A-20 | 24 | 4k x 8 32kB 200ns (21V) | 6.49 | 5.99 |
| 40192ER | 2764-20 | 28 | 8k x 8 64kB 200ns (21V) | 5.29 | 4.79 |
| 40205ER | 2764-25 | 28 | 8k x 8 64kB 250ns (21V) | 5.29 | 4.79 |
| 40230ER | 2764A-20 | 28 | 8k x 8 64kB 200ns (12.5V) | 4.49 | 4.09 |
| 40248ER | 2764A-25 | 28 | 8k x 8 64kB 250ns (12.5V) | 3.99 | 3.69 |
| 105304ER | 27C64-12 | 28 | 8k x 8 64kB 120ns (12.5V) CMOS | 6.49 | 5.99 |
| 39829ER | 27C64-15 | 28 | 8k x 8 64kB 150ns (12.5V) CMOS | 3.79 | 3.49 |
| 74608ER | 27C64-20 | 28 | 8k x 8 64kB 200ns (12.5V) CMOS | 4.69 | 4.29 |
| 39845ER | 27C64-25 | 28 | 8k x 8 64kB 250ns (12.5V) CMOS | 4.49 | 4.09 |
| 39933ER | 27128-25 | 28 | 16k x 8 128kB 250ns (21V) ~~$5.95~~ | 4.20 | 3.90 |
| 39984ER | 27128A-25 | 28 | 16k x 8 128kB 250ns (12.5V) | 4.49 | 4.09 |
| 39685ER | 27C128-25 | 28 | 16k x 8 128kB 250ns (12.5V) CMOS | 3.99 | 3.59 |
| 39968ER | 27128A-20 | 28 | 16k x 8 128kB 200ns (12.5V) | 4.69 | 4.19 |
| 101101ER | 27C128-20 | 28 | 16k x 8 128kB 200ns (12.5V) CMOS ~~$4.69~~ | 4.39 | 3.95 |
| 39950ER | 27128A-15 | 28 | 16k x 8 128kB 150ns (12.5V) | 4.49 | 3.99 |
| 87935ER | 27C128-12 | 28 | 16k x 8 128kB 120ns (12.5V) CMOS | 4.69 | 4.09 |
| 39677ER | 27C128-15 | 28 | 16k x 8 128kB 150ns (12.5V) CMOS | 4.29 | 3.89 |
| 40037ER | 27256-15 | 28 | 32k x 8 256kB 150ns (12.5V) | 3.29 | 3.09 |
| 39722ER | 27C256-20 | 28 | 32k x 8 256kB 200ns (12.5V) CMOS | 2.59 | 2.49 |
| 39731ER | 27C256-25 | 28 | 32k x 8 256kB 250ns (12.5V) CMOS | 3.19 | 2.99 |
| 140476ER | 27C256-70 | 28 | 32k x 8 256kB 70ns (12.5V) CMOS ~~$3.59~~ | 3.39 | 3.19 |
| 112740ER | 27C256-10 | 28 | 32k x 8 256kB 100ns (12.5V) CMOS | 3.29 | 3.09 |
| 65904ER | 27C256-12 | 28 | 32k x 8 256kB 120ns (12.5V) CMOS | 2.09 | 1.99 |
| 39714ER | 27C256-15 | 28 | 32k x 8 256kB 150ns (12.5V) CMOS | 2.09 | 1.79 |
| 40168ER | 27512-25 | 28 | 64k x 8 512kB 250ns (12.5V) | 3.69 | 3.39 |
| 131959ER | 27C512-10 | 28 | 64k x 8 512kB 100ns (12.5V) CMOS ~~$3.39~~ | 3.19 | 2.99 |
| 39773ER | 27C512-12 | 28 | 64k x 8 512kB 120ns (12.5V) CMOS ~~$2.09~~ | 1.69 | 1.59 |
| 39781ER | 27C512-15 | 28 | 64k x 8 512kB 150ns (12.5V) CMOS | 2.09 | 1.99 |
| 39790ER | 27C512-20 | 28 | 64k x 8 512kB 200ns (12.5V) CMOS | 3.09 | 2.89 |
| 39802ER | 27C512-25 | 28 | 64k x 8 512kB 250ns (12.5V) CMOS | 4.75 | 4.39 |
| 203617ER | 27C512-45 | 28 | 64k x 8 512kB 45ns (12.5V) CMOS | 4.09 | 3.79 |
| 203625ER | 27C512-70 | 28 | 64k x 8 512kB 70ns (12.5V) CMOS | 2.89 | 2.49 |
| 175206ER | 27C512-90 | 28 | 64k x 8 512kB 90ns (12.5V) CMOS ~~$3.45~~ | 2.79 | 2.59 |
| 118148ER | 27C1024-15 | 40 | 64k x 16 1024kB 150ns (12.5V) CMOS ~~$5.95~~ | 5.29 | 4.79 |
| 39651ER | 27C010-15 | 32 | 128k x 8 1024kB 150ns (12.5V) CMOS | 2.59 | 2.19 |
| 74624ER | 27C010-12 | 32 | 128k x 8 1024kB 120ns (12.5V) CMOS ~~$3.59~~ | 2.99 | 2.59 |
| 39669ER | 27C010-20 | 32 | 128k x 8 1024kB 200ns (12.5V) CMOS | 2.39 | 2.29 |
| 146149ER | 27C010-70 | 32 | 128k x 8 1024kB 70ns (12.5V) CMOS | 2.49 | 2.29 |
| 78852ER | 27C020-12 | 32 | 256k x 8 2048kB 120ns (12.5V) CMOS | 5.29 | 4.89 |
| 65699ER | 27C020-15 | 32 | 256k x 8 2048kB 150ns (12.5V) CMOS | 5.29 | 4.99 |
| 127933ER | 27C4096-12 | 40 | 256k x 16 4096kB 120ns (12.5V) CMOS | 9.29 | 8.69 |
| 111780ER | 27C040-10 | 32 | 512k x 8 4096kB 100ns (12.5V) CMOS | 7.09 | 6.49 |
| 102293ER | 27C040-12 | 32 | 512k x 8 4096kB 120ns (12.5V) CMOS | 6.59 | 6.09 |
| 85462ER | 27C040-15 | 32 | 512k x 8 4096kB 150ns (12.5V) CMOS | 6.59 | 6.09 |
| 203668ER | 27C040-45 | 32 | 512k x 8 4096kB 45ns (12.5V) CMOS ~~$12.65~~ | 9.99 | 9.09 |
| 203684ER | 27C080-90 | 32 | 1M x 8 8192kB 90ns (12.5V) CMOS | 12.99 | 11.99 |
| 156275ER | 27C080-10 | 32 | 1M x 8 8192kB 100ns (12.5V) CMOS | 12.99 | 11.99 |
| 140003ER | 27C080-12 | 32 | 1M x 8 8192kB 120ns (12.5V) CMOS | 12.59 | 11.59 |
| 156283ER | 27C160-10 | 42 | 2M x 8 16384kB 100ns (12.5V) CMOS | 19.99 | 18.99 |

See EPROM programmers on page 51

## EPROM Accessories

| Part No. | Cross Ref. | Description | 1 | 5 |
|---|---|---|---|---|
| 66042ER | DE1 | UVP portable EPROM eraser, pg 51 | $54.95 | $49.95 |
| 15712ER | DE4 | 8-chip UV-EPROM eraser, pg 51 | 119.95 | 109.95 |

## EEPROM

More @ www.Jameco.com/EEPROM

| Part No. | Cross Ref. | Pins | Description | 1 | 10 |
|---|---|---|---|---|---|
| 108847ER | 24C04P | 8 | 512 x 8 4096-bit serial (CMOS) | $.89 | $.79 |
| 74691ER | 28C16A-25 | 24 | 2k x 8 16k 250ns (5V) CMOS | 3.99 | 3.69 |
| 74827ER | 28C64A-25 | 28 | 8k x 8 64k 250ns (5V) CMOS | 4.49 | 4.05 |
| 200580ER | 24C256-10 | 8 | 32k x 8 256k serial (CMOS) | 3.19 | 2.39 |
| 74843ER | 28C256-15 | 28 | 32k x 8 256k 150ns CMOS | 8.99 | 6.89 |
| 74878ER | 28C256-25 | 28 | 32k x 8 256k 250ns CMOS | 8.75 | 7.45 |

## OTP/PROM

More @ www.Jameco.com/IC

| Part No. | Cross Ref. | Pins | Description | 1 | 10 |
|---|---|---|---|---|---|
| 48717ER | 74S288 | 16 | 32 x 8 Tri-state (27S19/TBP18S030N) | $7.39 | $6.39 |
| 27781ER | N82S129 | 16 | 256 x 4 1024-bit PROM tri-state (27S21) | 7.89 | 6.89 |
| 27801ER | N82S137 | 18 | 1024 x 4 4096-bit PROM tri-state (27S33) | 4.99 | 4.29 |

## Flash Memory

More @ www.Jameco.com/IC

| Part No. | Cross Ref. | Pins | Description | 1 | 10 |
|---|---|---|---|---|---|
| 74771ER | 28F010-15 | 32 | 128k x 8 150ns (12V) CMOS | $6.95 | $6.25 |
| 74835ER | 28F020-15 | 32 | 256k x 8 150ns (12V) CMOS | 7.95 | 7.15 |

## Dynamic Video RAM

More @ www.Jameco.com/IC

| Part No. | Cross Ref. | Pins | Description | 1 | 10 |
|---|---|---|---|---|---|
| 41339ER | 4116-15 | 16 | 16k x 1 150ns (MM5290J-1R) | $.99 | $.89 |
| 128688ER | HM514260 | SOJ | 256k x 16 70ns | 3.39 | 2.88 |

## Static RAM

More @ www.Jameco.com/SRAM

| Part No. | Cross Ref. | Pins | Description | 1 | 10 |
|---|---|---|---|---|---|
| 114323ER | DS1230Y-150 | 28 | — 256k nonvol., 4.37V (write protect) | $19.95 | $18.95 |
| 42198ER | 5101 ✤ | 22 | 256 x 4 450ns (CMOS) | 7.99 | 7.19 |
| 38957ER | 2114N | 18 | 1k x 4 450ns (9114BPC) | 2.29 | 1.99 |
| 38973ER | 2114N-2 | 18 | 1k x 4 200ns (9114EPC) (U214D20) | 2.49 | 2.09 |
| 38981ER | 2114N-2L | 18 | 1k x 4 200ns low power | 2.49 | 2.25 |
| 42921ER | 6264P-10 ✤ | 28 | 8k x 8 100ns (64kB) CMOS | 2.59 | 2.29 |
| 42930ER | 6264P-12 ✤ | 28 | 8k x 8 120ns (64kB) CMOS | 2.65 | 2.39 |
| 85121ER | 6264LP-70 | 28 | 8k x 8 70ns (64kB) LP CMOS | 3.39 | 3.05 |
| 42884ER | 6264LP-10 ✤ | 28 | 8k x 8 100ns (64kB) LP CMOS | 2.75 | 2.49 |
| 42892ER | 6264LP-12 ✤ | 28 | 8k x 8 120ns (64kB) LP CMOS | 2.79 | 2.49 |
| 242721ER | 6264-55 | 28 | 8k x 8 55ns (5V) CMOS async. | 3.29 | 2.59 |
| 82472ER | 62256LP-70 | 28 | 32k x 8 70ns low power CMOS | 5.49 | 4.99 |
| 42833ER | 62256LP-10 ✤ | 28 | 32k x 8 100ns low power CMOS | 4.19 | 3.55 |
| 42850ER | 62256LP-12 ✤ | 28 | 32k x 8 120ns low power CMOS | 3.89 | 3.49 |
| 75037ER | ATT7C199P-15 | 28 | 32k x 8 15ns high speed CMOS (.3"W) | 3.39 | 2.99 |
| 131810ER | 628128LP-70 | 32 | 128k x 8 70ns low power CMOS | 8.99 | 7.39 |
| 157358ER | 628512LP-70 | 32 | 512k x 8 70ns low power CMOS | 18.99 | 16.99 |

✤ Pull = Extra Savings

## ISD Voice Chips

### Single-Chip Voice Record/Playback Devices

*10 to 120 Second Durations (28-pin DIP)*

- Single voltage operation: +5V (4.5V to 5.5V operating range)
- 100k record cycles (typical)
- 1 µA standby current (typical)

| Part No. | Product No. | Description | 1 | 10 |
|---|---|---|---|---|
| 141671ER | ISD1110P | Voice record/playback (10 sec.) | $4.29 | $3.99 |
| 107334ER | ISD1420P | Voice record/playback (20 sec.) | 5.39 | 5.09 |
| 120643ER | ISD2560 | Voice record/playback (60 sec.) | 9.19 | 8.59 |
| 120660ER | ISD2590 | Voice record/playback (90 sec.) | 9.29 | 8.69 |
| 141655ER | ISD25120P | Voice record/playback (120 sec.) | 9.99 | 9.49 |

## CPUs/MPUs

More @ www.Jameco.com/CPU

| Part No. | Description | MHz | Socket | 1 | 10 |
|---|---|---|---|---|---|
| 183118ER | Pentium® III processor | 600 | Slot 1 ~~$159.95~~ | $117.59 | $111.75 |
| 183100ER | Pentium® II processor | 400 | Slot 1 ~~$124.99~~ | 99.95 | 74.95 |
| 151651ER | Pentium® II processor | 300 | Slot 1 | 89.95 | 85.45 |
| 190060ER | Pentium® II w/ heat sink | 233 | Slot 1 | 89.95 | 79.95 |
| 150501ER | Pentium MMX® processor | 233 | 376/PGA | 69.95 | 62.95 |
| 140054ER | Pentium MMX® processor ✤ | 200 | 376/PGA | 49.95 | 37.45 |
| 130841ER | Pentium® processor | 166 | 296/PGA | 49.95 | 37.45 |
| 130833ER | Pentium® processor | 133 | 296/PGA | 39.95 | 35.95 |
| 118421ER | Intel 486DX2 processor ✤ | 66 | 168/PGA | 19.95 | 14.96 |

✤ Pull = Extra Savings

COLOR CODE LEGEND... NEW SALE REFURBISHED CLOSEOUT

Thousands of new ICs are in the pipeline for addition and not shown below. Call us to see if you can save 10-20%.

## Zilog Z80 MPUs

More @ www.Jameco.com/Z80

| Part No. | Cross Ref. | Pins | MHz | Description | 1 | 10 |
|---|---|---|---|---|---|---|
| 35561ER | Z80 ✤ | 40 | 2.5 | CPU (MK3880N/780C) | $1.39 | $1.19 |
| 35596ER | Z80A ✤ | 40 | 4 | CPU (MK3880N-4/780C-1) | 1.99 | 1.79 |
| 35781ER | Z84C00-4 | 40 | 4 | CPU (Z84C0004PEC) CMOS | 4.15 | 3.49 |

✤ Pull = Extra Savings

## UARTs

More @ www.Jameco.com/IC

| Part No. | Cross Ref. | Pins | Description | 1 | 10 |
|---|---|---|---|---|---|
| 27596ER | NS16550AN ✤ | 40 | Univ. asynch. rcvr./trans. w/ FIFO (PC16550DN) | $5.89 | $4.49 |

✤ Pull = Extra Savings

## 6500 Series

More @ www.Jameco.com/6500

| Part No. | Cross Ref. | Pins | Description | 1 | 10 |
|---|---|---|---|---|---|
| 43191ER | 6502 ✤ | 40 | MPU with internal clock (1MHz) | $7.95 | $6.95 |
| 43166ER | 65C02 ✤ | 40 | MPU with internal clock (CMOS) | 6.95 | 5.25 |
| 43254ER | 6522 ✤ | 40 | VIA (versatile interface adapter) 1MHz | 2.39 | 2.15 |

✤ Pull = Extra Savings

## 6800/68000 Series

More @ www.Jameco.com/6800

| Part No. | Cross Ref. | Pins | Description | 1 | 10 |
|---|---|---|---|---|---|
| 43481ER | 6800 ✤ | 40 | 8-bit MCU | $6.95 | $5.25 |
| 43502ER | 6802 | 40 | 8-bit MCU with clock and RAM (1MHz) | 8.50 | 7.65 |
| 43596ER | 6821 ✤ | 40 | Peripheral interface adapter (1MHz) | 3.95 | 3.59 |
| 43414ER | 68B21 ✤ | 40 | Peripheral interface adapter (2MHz) | 4.95 | 4.49 |
| 43633ER | 6850 ✤ | 24 | Asynch. comm. int. adapter (ACIA) | 2.39 | 2.09 |
| 25363ER | MC68705P3S | 28 | 8-bit EPROM MPU w/ 112B RAM & I/O | 24.95 | 22.95 |
| 132484ER | MC68HC705C8S | 40 | 8-bit HCMOS MCU, 8k bytes, EPROM | 38.95 | 34.95 |
| 248612ER | MC68HC705P6ACP | 28 | MCU, OTP 4.5k ROM, 21 I/O A/D | 3.95 | 2.75 |
| 248401ER | MC68HC908JB8JP | 20 | MCU, flash 8k ROM, 37 I/O USB | 5.49 | 5.45 |
| 248381ER | MC68HC908JL3CP | 28 | MCU, flash 4k ROM, 23 I/O, A/D | 4.55 | 4.35 |
| 248364ER | MC68HC908JK3CP | 20 | MCU, flash, 4k ROM 15 I/O | 3.75 | 3.45 |
| 248428ER | MC68HC908KX8CP | 16 | MCU, flash 8k ROM, 13 I/O, A/D | 5.65 | 5.45 |
| 248487ER | MC68HC908QT1CP | 8 | MCU, Flash, 1.5k ROM, 6 I/O | 1.89 | 1.45 |
| 248461ER | MC68HC908QT2CP | 8 | MCU, Flash, 1.5k ROM, 6 I/O, A/D | 2.85 | 2.55 |
| 248444ER | MC68HC908QT4CP | 8 | MCU, flash 4k ROM, 6 I/O, A/D | 2.69 | 1.65 |
| 248541ER | MC68HC908QY1CP | 16 | MCU, Flash, 1.5k ROM, 141 I/O | 2.15 | 1.65 |
| 248524ER | MC68HC908QY2CP | 16 | MCU, flash, 1.5k ROM, 13 I/O, A/D | 2.55 | 1.95 |
| 248508ER | MC68HC908QY4CP | 16 | MCU, Flash, 4k ROM, 13 I/O, A/D | 2.89 | 2.49 |
| 191863ER | MC68HC11E1CP2 | 48 | 8-bit micro cntl. w/ A/D conv. (512B RAM) | 15.95 | 13.55 |

✤ Pull = Extra Savings

## 8000 Series

More @ www.Jameco.com/8000

| Part No. | Cross Ref. | Pins | Description | 1 | 10 |
|---|---|---|---|---|---|
| 51844ER | 8031 ✤ | 40 | CPU with 128 x 8 RAM and I/O | $3.29 | $2.99 |
| 102197ER | 8032 | 40 | 8-bit MCU 256 x 8 RAM | 3.95 | 3.59 |
| 51959ER | 8039 ✤ | 40 | CPU single chip 8-bit (128 bytes RAM) | 4.49 | 3.99 |
| 51991ER | 8051AP** ✤ | 40 | MCU w/128x8 RAM | 5.49 | 4.99 |
| 52046ER | 8080A ✤ | 40 | CPU 8-bit N-channel (1MHz) | 4.49 | 3.95 |
| 52062ER | 8085A ✤ | 40 | CPU 8-bit N-channel (3MHz) | 4.99 | 4.25 |
| 52142ER | 8088 ✤ | 40 | CPU 16-bit (8-bit data bus) 5MHz | 2.49 | 2.25 |
| 52071ER | 8085A-2 ✤ | 40 | CPU 8-bit N-channel (5MHz) | 5.49 | 4.99 |
| 51705ER | 80C85 | 40 | CPU 8-bit N-channel (3MHz)(CMOS) | 6.95 | 5.95 |
| 52290ER | 8155 | 40 | HMOS RAM I/O port/timer (3MHz) | 4.49 | 3.39 |
| 52302ER | 8155-2 ✤ | 40 | HMOS RAM I/O port/timer (5MHz) | 5.95 | 5.39 |
| 52468ER | 8212 ✤ | 24 | 8-bit input/output (74S412) | 6.49 | 5.99 |
| 52644ER | 8251 | 28 | Prog. comm. I/O (USART) | 2.99 | 2.69 |
| 52652ER | 8251A ✤ | 28 | Prog. comm. interface (USART) | 3.99 | 3.69 |
| 52687ER | 8253-5 | 24 | Prog. interval timer (2MHz) | 4.99 | 4.49 |
| 52708ER | 8254 ✤ | 24 | Prog. interval timer (UPD71054) | 4.49 | 3.99 |
| 52716ER | 8254-2v ✤ | 24 | Prog. interval timer (10MHz) | 7.35 | 6.65 |
| 52409ER | 82C54-2 | 24 | Prog. interval timer (CMOS) 10MHz | 4.49 | 3.85 |
| 52724ER | 8255 ✤ | 40 | Prog. peripheral I/O (PPI) 71055 (2MHz) | 4.49 | 3.99 |
| 52732ER | 8255A-5 ✤ | 40 | Prog. peripheral I/O (PPI) 5MHz | 4.89 | 4.39 |
| 52417ER | 82C55A | 40 | Prog. peripheral I/O (PPI) CMOS | 4.99 | 4.49 |
| 52425ER | 82C55A-5 | 40 | Prog. peripheral I/O (PPI) CMOS (5MHz) | 4.49 | 3.99 |
| 52759ER | 8256 ✤ | 40 | Multif. universal asynch. rec./trans. | 19.99 | 17.99 |
| 52839ER | 8279 ✤ | 40 | Prog. keyboard/display interface | 12.99 | 11.99 |
| 52871ER | 8284A ✤ | 18 | Clock gen. and driver (UPD71084) | 4.49 | 3.99 |

** Tie pin 31 low to bypass the internal ROM ✤ Pull = Extra Savings

## 8000 Series (Continued)

More @ www.Jameco.com/8000

| Part No. | Cross Ref. | Pins | Description | 1 | 10 |
|---|---|---|---|---|---|
| 53031ER | 8748H | 40 | CPU 8-bit, EPROM, RAM & I/O HMOS (21V) | $15.95 | $14.49 |
| 53057ER | 8749H | 40 | MPU 8-bit (EPROM version 8049) | 22.99 | 19.49 |
| 53081ER | 8751H | 40 | CPU w/ 4kx8 EPROM & 128x8 RAM (1.2-12MHz) | 28.49 | 20.25 |
| 52978ER | 87C51 | 40 | CPU w/ 4kx8 EPROM & 128x8 RAM(3.5-12MHz) | 21.99 | 18.69 |
| 53090ER | 8755 | 40 | 16k EPROM with I/O | 8.95 | 8.09 |

## MICROCHIP PIC Microcontrollers

More @ www.Jameco.com/PIC

| Part No. | Product No. | Pkg. Pins | Memory | Speed (MHz) | ROM Bits | RAM Bytes | I/O Lines | 1 | 25 |
|---|---|---|---|---|---|---|---|---|---|
| 145040ER | PIC12C508-04/P | 8 | OTP | 4 | 512 | 25 | 5 | $1.49 | $.99 |
| 144258ER | PIC12C509-04/P | 8 | OTP | 4 | 1k | 41 | 5 | 1.49 | 1.09 |
| 247193ER | PIC12F629-I/SN | 8 | Flash | 20 | 1k | 64 | 6 | 1.59 | 1.29 |
| 247206ER | PIC12F675-I/SN | 8 | Flash | 20 | 1k | 64 | 6 | 1.99 | 1.29 |
| 247329ER | PIC16C505-20I/P | 14 | OTP | 20 | 1k | 72 | 11 | 2.00 | 1.69 |
| 247337ER | PIC16C505-20I/SL | 14 | OTP | 20 | 1k | 72 | 11 | 1.99 | 1.69 |
| 247214ER | PIC16C54C-20I/P | 18 | OTP | 20 | 512 | 25 | 12 | 2.33 | 2.00 |
| 247222ER | PIC16C54C-20I/SO | 18 | OTP | 20 | 512 | 25 | 12 | 2.33 | 1.91 |
| 247231ER | PIC16C54C-20I/SS | 20 | OTP | 20 | 512 | 25 | 12 | 2.57 | 2.18 |
| 247249ER | PIC16C55A-20I/P | 28 | OTP | 20 | 512 | 24 | 20 | 2.96 | 2.61 |
| 247257ER | PIC16C55A-20/SO | 28 | OTP | 20 | 512 | 24 | 20 | 3.08 | 2.61 |
| 134172ER | PIC16C56-RC/P | 18 | OTP | 20 | 1k | 25 | 12 | 4.49 | 3.69 |
| 247265ER | PIC16C56A-20I/P | 18 | OTP | 20 | 1k | 25 | 12 | 2.87 | 2.44 |
| 247273ER | PIC16C56A-20/SO | 18 | OTP | 20 | 1k | 25 | 12 | 2.66 | 2.56 |
| 247281ER | PIC16C57C-20/P | 28 | OTP | 20 | 2k | 72 | 20 | 3.46 | 2.75 |
| 247290ER | PIC16C57C-20/SO | 28 | OTP | 20 | 2k | 72 | 20 | 3.60 | 3.06 |
| 247302ER | PIC16C58B-20/P | 18 | OTP | 20 | 2k | 73 | 12 | 2.77 | 2.22 |
| 247311ER | PIC16C58B-20/SO | 18 | OTP | 20 | 2k | 73 | 12 | 2.82 | 2.41 |
| 193383ER | PIC16C622A-04/P | 18 | OTP | 4 | 2k | 128 | 13 | 2.69 | 2.29 |
| 193359ER | PIC16C711-04/P | 18 | OTP | 4 | 1k | 68 | 13 | 3.99 | 2.29 |
| 193439ER | PIC16F627-20/P | 18 | Flash | 20 | 1k | 224 | 16 | 3.29 | 2.55 |
| 193447ER | PIC16F628-20/P | 18 | Flash | 20 | 2k | 224 | 16 | 3.69 | 2.69 |
| 246730ER | PIC16F628-20/SO | 18 | Flash | 20 | 2k | 224 | 16 | 3.71 | 2.73 |
| 246748ER | PIC16F628-20/SS | 20 | Flash | 20 | 2k | 224 | 16 | 4.02 | 2.97 |
| 246756ER | PIC16F628-20I/P | 18 | Flash | 20 | 2k | 224 | 16 | 4.02 | 2.97 |
| 246764ER | PIC16F628-20I/SO | 18 | Flash | 20 | 2k | 224 | 16 | 4.09 | 3.02 |
| 247126ER | PIC16F630-I/SL | 14 | Flash | 20 | 1k | 128 | 12 | 1.86 | 1.58 |
| 247134ER | PIC16F630-I/ST | T14 | Flash | 20 | 1k | 128 | 12 | 2.07 | 1.77 |
| 247142ER | PIC16F648A-I/P | 18 | Flash | 20 | 4k | 256 | 16 | 3.27 | 1.92 |
| 247151ER | PIC16F648A-I/SO | 18 | Flash | 20 | 4k | 256 | 16 | 3.34 | 2.46 |
| 247169ER | PIC16F648A-I/SS | 20 | Flash | 20 | 4k | 256 | 16 | 3.59 | 2.66 |
| 247177ER | PIC16F676-I/SL | 14 | Flash | 20 | 1k | 64 | 12 | 2.14 | 1.81 |
| 247185ER | PIC16F676-I/ST | T14 | Flash | 20 | 1k | 64 | 12 | 2.35 | 2.00 |
| 246801ER | PIC16F73-I/SO | 28 | Flash | 20 | 4k | 192 | 22 | 5.06 | 4.30 |
| 193391ER | PIC16F73-I/SP | 28 | Flash | 20 | 4k | 192 | 5 | 5.19 | 4.19 |
| 246810ER | PIC16F73-I/SS | 28 | Flash | 20 | 4k | 192 | 22 | 5.20 | 4.41 |
| 246772ER | PIC16F74-I/L | 44 | Flash | 20 | 4k | 192 | 33 | 6.86 | 6.12 |
| 246781ER | PIC16F74-I/P | 44 | Flash | 20 | 4k | 192 | 33 | 7.36 | 6.26 |
| 246828ER | PIC16F76-I/SO | 28 | Flash | 20 | 8k | 368 | 22 | 6.34 | 5.39 |
| 246836ER | PIC16F76-I/SS | 28 | Flash | 20 | 8k | 368 | 22 | 6.49 | 5.52 |
| 246799ER | PIC16F77-I/L | 44 | Flash | 20 | 8k | 368 | 33 | 7.85 | 6.99 |
| 247054ER | PIC16F818-I/SO | 18 | Flash | 20 | 1k | 128 | 16 | 3.10 | 2.28 |
| 247062ER | PIC16F818-I/SS | 20 | Flash | 20 | 1k | 128 | 16 | 3.37 | 2.39 |
| 247089ER | PIC16F819-I/SO | 18 | Flash | 20 | 2k | 256 | 16 | 3.53 | 2.60 |
| 247071ER | PIC16F819-I/SS | 20 | Flash | 20 | 2k | 256 | 16 | 3.81 | 2.81 |
| 145111ER | PIC16F84-04/P | 18 | Flash | 4 | 1k | 68 | 13 | 6.59 | 4.39 |
| 145120ER | PIC16F84-10/P | 18 | Flash | 10 | 1k | 68 | 13 | 7.09 | 5.99 |
| 193332ER | PIC16F84A-20/P | 18 | Flash | 20 | 1k | 68 | 13 | 5.79 | 4.69 |
| 246844ER | PIC16F84A-20/SO | 18 | Flash | 20 | 1k | 68 | 13 | 5.73 | 4.87 |
| 246852ER | PIC16F84A-20/SS | 20 | Flash | 20 | 1k | 68 | 13 | 6.11 | 5.19 |
| 246861ER | PIC16F84A-20I/P | 18 | Flash | 20 | 1k | 68 | 13 | 6.20 | 5.24 |
| 246879ER | PIC16F84A-20I/SO | 18 | Flash | 20 | 1k | 68 | 13 | 6.30 | 5.35 |
| 246887ER | PIC16F84A-20I/SS | 20 | Flash | 20 | 1k | 68 | 13 | 6.66 | 5.65 |
| 247097ER | PIC16F87-I/P | 18 | Flash | 20 | 4k | 368 | 16 | 4.02 | 2.97 |
| 247100ER | PIC16F87-I/SO | 18 | Flash | 20 | 4k | 368 | 16 | 4.12 | 3.04 |
| 247118ER | PIC16F87-I/SS | 20 | Flash | 20 | 4k | 368 | 16 | 4.42 | 3.26 |
| 246908ER | PIC16F870-I/SO | 28 | Flash | 20 | 2k | 128 | 22 | 4.35 | 3.69 |
| 246895ER | PIC16F870-I/SP | 28 | Flash | 20 | 2k | 128 | 22 | 4.35 | 3.69 |
| 246916ER | PIC16F870-I/SS | 28 | Flash | 20 | 2k | 128 | 22 | 4.49 | 3.81 |
| 246932ER | PIC16F871-I/L | 44 | Flash | 20 | 2k | 128 | 33 | 5.76 | 5.40 |

Thousands of new ICs are in the pipeline for addition and not shown below. Call us to see if you can save 10-20%.

## PIC Microcontrollers (Continued)

| Part No. | Product No. | Pkg. Pins | Memory | Speed (MHz) | ROM Bits | RAM Bytes | I/O Lines | 1 | 25 |
|---|---|---|---|---|---|---|---|---|---|
| 246924ER | PIC16F871-I/P | 40 | Flash | 20 | 2k | 128 | 33 | $5.15 | $4.65 |
| 246959ER | PIC16F872-I/SO | 28 | Flash | 20 | 2k | 128 | 22 | 4.35 | 3.69 |
| 246941ER | PIC16F872-I/SP | 28 | Flash | 20 | 2k | 128 | 22 | 4.35 | 3.69 |
| 246967ER | PIC16F872-I/SS | 28 | Flash | 20 | 2k | 128 | 22 | 4.49 | 3.81 |
| 246983ER | PIC16F873A-I/SO | 28 | Flash | 20 | 4k | 192 | 22 | 6.16 | 5.22 |
| 246975ER | PIC16F873A-I/SP | 28 | Flash | 20 | 4k | 192 | 22 | 6.29 | 5.19 |
| 247003ER | PIC16F874A-I/L | 44 | Flash | 20 | 4k | 192 | 33 | 7.55 | 6.73 |
| 246991ER | PIC16F874A-I/P | 40 | Flash | 20 | 4k | 192 | 33 | 6.72 | 5.72 |
| 193367ER | PIC16F876-20/SP | 28 | Flash | 20 | 256 | 368 | 22 | 7.89 | 6.69 |
| 247020ER | PIC16F876A-I/SO | 28 | Flash | 20 | 8k | 368 | 22 | 6.63 | 5.64 |
| 247011ER | PIC16F876A-I/SP | 28 | Flash | 20 | 8k | 368 | 22 | 6.63 | 5.64 |
| 176882ER | PIC16F877-20/P | 40 | Flash | 20 | 256 | 368 | 33 | 9.49 | 8.49 |
| 247046ER | PIC16F877A-I/L | 44 | Flash | 20 | 8k | 368 | 33 | 8.11 | 7.24 |
| 247038ER | PIC16F877A-I/P | 40 | Flash | 20 | 8k | 368 | 33 | 7.24 | 6.15 |
| 247345ER | PIC16HV540-20/P | 18 | OTP | 20 | 512 | 25 | 12 | 2.30 | 1.95 |
| 247353ER | PIC16HV540-20/SO | 20 | OTP | 20 | 512 | 25 | 12 | 2.35 | 2.00 |

## AT89C Series

More @ www.Jameco.com/IC

| Part No. | Product No. | Pins | Description | 1 | 25 |
|---|---|---|---|---|---|
| 168903ER | AT89C51-24PC | 40 | 8-bit MCU, 24MHz 4kb flash memory | $4.49 | $3.99 |
| 168920ER | AT89C52-24PC | 40 | 8-bit MCU, 24MHz 8kb flash mem. | 4.39 | 2.85 |
| 168874ER | AT89C2051-24PC | 20 | 8-bit MCU, 24MHz 2kb flash mem. | 3.59 | 2.39 |
| 204089ER | AT89C4051-24PC | 20 | 8-bit MCU, 24MHz 4kb flash mem. 8-bit | 4.49 | 2.95 |
| 204097ER | AT89S8252-24PC | 40 | 8-bit MCU, 24MHz 8kb flash mem. 2kb EEPROM | 6.75 | 4.49 |
| 204100ER | AT90S1200-12PC | 20 | 20 AVR 8-bit RISC MCU, 12MHz 1kb prog. flash | 2.95 | 1.95 |
| 204126ER | AT90S8515-8PC | 40 | 40 AVR 8-bit RISC MCU, 8MHz 8kb prog. flash | 7.95 | 5.49 |

## Basic Stamp Microcontrollers

### *80C52-BASIC Microcontroller*

The 80C52-BASIC chip is a custom-masked 80C52 microcontroller with a full-featured 8k-byte ROM-resident BASIC-52 interpreter.

**Hardware:** • On-chip oscillator and clock circuit
• Operates DC to 12MHz • 256 x 8-bit RAM
**Software:** • Full BASIC interpreter in ROM on a single chip
• "Stand-alone" software development
• Interrupts can be handled by BASIC or Assembly Language

| Part No. | Product No. | Description | 1 | 10 |
|---|---|---|---|---|
| 125647ER | 80C52BASIC | CPU 8-bit CMOS w/ BASIC interpreter | $32.09 | $28.89 |

## GALs

More @ www.Jameco.com/IC

| Part No. | Cross Ref. | Pins | Description | 1 | 10 |
|---|---|---|---|---|---|
| 38666ER | 20V8-25* | 24 | 25ns 64 x 40 AND array | $1.63 | $1.46 |
| 39167ER | 22V10-25 | 24 | 25ns 132 x 44 AND array lattice | 3.99 | 3.49 |

**GALs are electrically erasable PLDs that can be used in place of numerous PALs**

* Replaces PALs: 14H8, 14L8, 14P8, 16H6, 16L6, 16P6, 18H4, 18L4, 18P4, 20H2, 20H8, 20L2, 20L8, 20P2, 20P8, 20R4, 20R6, 20R8, 20RP4, 20RP6, 20RP8

## 4000 Series

More @ www.Jameco.com/4000

| Part No. | Cross Ref. | Pins | Description | 1 | 10 |
|---|---|---|---|---|---|
| 12562ER | CD4001** | 14 | Quad 2-input NOR gate | $.29 | $.24 |
| 12634ER | CD4011** | 14 | Quad 2-input NAND gate | .29 | .24 |
| 12677ER | CD4013** | 14 | Dual D flip-flop with set/reset | .35 | .25 |
| 12706ER | CD4015* | 16 | Dual 4-stage static shift register | .45 | .37 |
| 12722ER | CD4016* | 14 | Quad bilateral switch | .28 | .24 |
| 12749ER | CD4017* | 16 | Decade counter/divider | .39 | .35 |
| 12802ER | CD4020* | 16 | 14-stage binary/ripple counter | .49 | .39 |
| 12845ER | CD4023* | 14 | Triple 3-input NAND gate | .28 | .23 |
| 12853ER | CD4024* | 14 | 7-stage binary counter | .32 | .27 |
| 12950ER | CD4040* | 16 | 12-stage binary/ripple counter | .32 | .27 |
| 13055ER | CD4049** | 16 | HEX/buffer/converter (inverting) | .29 | .24 |
| 13071ER | CD4050* | 16 | Hex/buffer/converter (N-inverting) | .25 | .21 |
| 13098ER | CD4051* | 16 | Single 8-channel multi./demultiplexer | .45 | .39 |
| 13127ER | CD4053 | 16 | Triple 2-channel multi./demultiplexer | .41 | .34 |
| 13186ER | CD4066** | 14 | Quad bilateral switch | .35 | .25 |

*10 pieces in CD4000 kit, pg 35 **20 pieces in CD4000 kit, pg 35

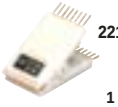
## 4000 Series (Continued)

More @ www.Jameco.com/4000

| Part No. | Cross Ref. | Pins | Description | 1 | 10 |
|---|---|---|---|---|---|
| 13231ER | CD4069* | 14 | Hex inverter (74C04) | $.30 | $.24 |
| 13258EX | CD4070* | 14 | Quad EXCLUSIVE-OR gate (74C86) | .28 | .24 |
| 13354ER | CD4081* | 14 | Quad 2-input AND gate | .28 | .26 |
| 13400ER | CD4093* | 14 | Quad 2-input NAND Schmitt trigger | .29 | .25 |
| 13493ER | CD4511* | 16 | BCD to 7-seg. latch/decoder/driver | .69 | .59 |
| 13581ER | CD4520 | 16 | Dual binary up counter | ~~$0.45~~ .33 | .28 |
| 13611ER | CD4528 | 16 | Dual monostable multivibrator | .86 | .73 |
| 13653ER | CD4538* | 16 | Dual precision monostable multivibrator | .59 | .49 |
| 13696ER | CD4543* | 16 | BCD to 7-segment decoder (LCD) | .59 | .45 |
| 13709ER | CD4553 | 16 | 3-digit BCD counter | 2.95 | 2.75 |

*10 pieces in CD4000 kit, pg 35 **20 pieces in CD4000 kit, pg 35

## IC Test Clip Series



22103ER

- Heavy-duty spring loaded hinge provides positive contact
- 20 AWG insulated gold contacts • Color: white

| Part No. | Cross Ref. | Description | 1 | 10 |
|---|---|---|---|---|
| 22103ER | JTC16 | 16-pin (for 8, 14 and 16-pin ICs) | $6.95 | $6.25 |
| 22120ER | JTC20 | 20-pin (for 18 and 20-pin ICs) | 8.95 | 6.50 |
| 22162ER | JTC28 | 28-pin | 10.95 | 9.95 |

## 7400 Series

More @ www.Jameco.com/7400

| Part No. | Cross Ref. | Pins | Description | 1 | 10 |
|---|---|---|---|---|---|
| 48979ER | 7400** | 14 | Quad 2-input NAND gate | $.65 | $.55 |
| 49015ER | 7402* | 14 | Quad 2-input NOR gate | .68 | .56 |
| 49040ER | 7404** | 14 | Hex inverter | .59 | .49 |
| 49120ER | 7407** | 14 | Hex buffer/driver (O.C.) | .40 | .37 |
| 49146ER | 7408* | 14 | Quad 2-input AND gate | .82 | .63 |
| 49728ER | 7417* | 14 | Hex buffer/driver (O.C. hi-voltage) | .91 | .77 |
| 50235ER | 7432* | 14 | Quad 2-input OR gate | .74 | .64 |
| 50403ER | 7445 | 16 | BCD-to-decimal decoder/driver (30V) | 1.19 | 1.05 |
| 50420ER | 7447* | 16 | BCD-to-7 segment decoder/driver (15V) | 1.49 | 1.29 |
| 50577ER | 7475 | 16 | 4-bit bi-stable latch | 2.95 | 2.75 |
| 50593ER | 7476 | 16 | Dual JK flip-flop with preset & clear | 1.49 | 1.41 |
| 50631ER | 7483 | 16 | 4-bit binary full adder | 1.05 | .91 |
| 50665ER | 7486 | 14 | Quad EXCLUSIVE-OR gate | 1.05 | .85 |
| 50681ER | 7489 | 16 | 64-bit RAM P 50ns | 3.49 | 3.19 |
| 50690ER | 7490 | 14 | Decade counter | 1.49 | 1.15 |
| 50745ER | 7493 | 14 | 4-bit binary counter | 1.49 | 1.34 |
| 49509ER | 74150 | 24 | 16 to 1 line multiplexer | 1.95 | 1.75 |
| 49883ER | 74189 | 16 | 64-bit RAM tri-state (DM8599N) | 3.40 | 2.89 |
| 49912ER | 74192 | 16 | Decade up/down counter with clear | 3.69 | 3.39 |
| 88225ER | SDLD001A | — | Texas Instruments TTL Data Book | 34.95 | 31.49 |

*10 pieces included in 7400 kit, pg 35 **20 pieces included in 7400 kit, pg 35

## 74AC Series

More @ www.Jameco.com/74AC

✳ Prepackaged: please order in increments of 10

| Part No. | Cross Ref. | Pins | Description | 1 | 10 |
|---|---|---|---|---|---|
| 211801ER | 74AC00N | 14 | Quad 2-input NAND gate | $.25 | $.21 |
| 211810ER | 74AC02N | 14 | Quad 2-input NOR gate | .20 | .17 |
| 211828ER | 74AC04N | 14 | Hex inverter | .24 | .20 |
| 238887ER | 74AC10 | 14 | Triple 3-input NAND gate | .25 | .24 |
| 211844ER | 74AC14N | 14 | Hex inverter with Schmitt trigger input | .21 | .18 |
| 238836ER | 74AC20 | 14 | 4-input NAND gate | ~~$0.41~~ .35 | .29 |
| 211852ER | 74AC32N | 14 | Quad 2-input OR gate | ~~$0.25~~ .21 | .18 |
| 211861ER | 74AC74N | 14 | Dual D-type pos. edge-triggered flip-flop | .27 | .24 |
| 211887ER | 74AC138N | 16 | 1 of 8 decoder/demultiplexer | .42 | .32 |
| 238730ER | 74AC139 | 16 | Dual 1 of 4 decoder/demultiplexer | .44 | .37 |
| 238748ER | 74AC151 | 16 | 8-input multiplexer | .42 | .32 |
| 211895ER | 74AC240N | 20 | Octal buffer/line driver w/ 3-state outputs | .30 | .241 |
| 238844ER | 74AC241 | 20 | Octal buffer/line driver w/ 3-state outputs | .41 | .33 |
| 211908ER | 74AC244N | 20 | Octal buffer/line driver w/ 3-state outputs | .29 | .25 |
| 238879ER | 74AC257 | 16 | Quad 2-input multiplexer | .38 | .35 |
| 211932ER | 74AC373N | 20 | Octal transparent latch with 3-state outputs | .40 | .34 |
| 211941ER | 74AC374N | 20 | Octal D-type flip-flop with 3-state outputs | .51 | .43 |

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## 74ACT Series

Expanded Selection

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✳ Prepackaged: order in increments of 10

| Part No. | Cross Ref. | Pins | Description | 1 | 10 |
|---|---|---|---|---|---|
| 211967ER | 74ACT02N | 14 | Quad 2-input NOR gate | $.28 | $.24 |
| 211975ER | 74ACT04N | 14 | Hex inverter | .25 | .21 |
| 211983ER | 74ACT08N | 14 | Quad 2-input AND gate | .20 | .16 |
| 239046ER | 74ACT10 | 14 | Triple 3-input NAND gate | .20 | .18 |
| 211991ER | 74ACT14N | 14 | Hex inverter with Schmitt trigger input | .23 | .18 |
| 212003ER | 74ACT32N | 14 | Quad 2-input OR gate | .28 | .24 |
| 212011ER | 74ACT74N | 14 | Dual D-type pos. edge-triggered flip-flop | .25 | .21 |
| 212038ER | 74ACT138 | 16 | 1 of 8 decoder/demultiplexer | .23 | .20 |
| 239011ER | 74ACT139 | 16 | Dual 1 of 4 decoder/demultiplexer | .38 | .31 |
| 239020ER | 74ACT151 | 16 | 8-input multiplexer | .51 | .39 |
| 212046ER | 74ACT240N | 20 | Octal buffer/line driver with 3-state outputs | .30 | .26 |
| 239097ER | 74ACT241 | 20 | Octal buffer/line driver with 3-state outputs | .41 | .33 |
| 212054ER | 74ACT244N | 20 | Octal buffer/line driver with 3-state outputs | .41 | .33 |
| 212062ER | 74ACT245N | 20 | Octal bidirectional trans. with 3-state outputs | .38 | .33 |
| 212071ER | 74ACT273N | 20 | Octal D-type flip-flop | .37 | .34 |
| 212089ER | 74ACT373N | 20 | Octal transparent latch with 3-state outputs | .41 | .33 |
| 212097ER | 74ACT374N | 20 | Octal D-type flip-flop with 3-state outputs | .40 | .33 |
| 235264ER | 74ACT541N | 20 | Octal buffer/line driver with 3-state outputs | .41 | .33 |
| 235272ER | 74ACT573N | 20 | Octal latch with 3-state outputs | .57 | .54 |
| 235281ER | 74ACT574N | 20 | Octal D-type flip-flop | .57 | .54 |

## 74C Series

More @ www.Jameco.com/74C

| Part No. | Cross Ref. | Pins | Description | 1 | 10 |
|---|---|---|---|---|---|
| 44222ER | 74C00 | 14 | Quad 2-input NAND gate | $1.05 | $.89 |
| 44231ER | 74C04 | 14 | Hex inverter (CD4069) | 1.05 | .89 |
| 44564ER | 74C922 | 18 | 16-key keyboard encoder (INS8245N) | 6.29 | 5.05 |
| 44572ER | 74C923 | 20 | 20-key keyboard encoder (INS8246N) | 5.99 | 5.09 |

## 74HC Series

Expanded Selection

More @ www.Jameco.com/74HC

✳ Prepackaged: order in increments of 10

| Part No. | Cross Ref. | Pins | Description | 1 | 10 |
|---|---|---|---|---|---|
| 45161ER | 74HC00 | 14 | Quad 2-input NAND gate (6231581) | $.22 | $.19 |
| 45188ER | 74HC02 | 14 | Quad 2-input NOR gate | ✳ | .15 |
| 45209ER | 74HC04 | 14 | Hex inverter (buffered) | .23 | .20 |
| 45364ER | 74HC14 | 14 | Hex inverter Schmitt trigger | .22 | .19 |
| 45794ER | 74HC32 | 14 | Quad 2-input OR gate | .28 | .24 |
| 46130ER | 74HC74 | 14 | Dual D flip-flop | .35 | .32 |
| 45330ER | 74HC138 | 16 | 3-to-8 decoder/demultiplexer | .30 | .27 |
| 45541ER | 74HC192 | 16 | Decade up/down counter with clear | 1.59 | 1.45 |
| 45612ER | 74HC240 | 20 | Octal inverting line driver tri-state | .30 | .26 |
| 45655ER | 74HC244 | 20 | Octal driver tri-state | .45 | .39 |
| 45831ER | 74HC373 | 20 | Octal D-type flip-flop tri-state | .45 | .39 |
| 45858ER | 74HC374 | 20 | Octal D-type flip-flop edge-trig tri-state | .49 | .39 |
| 46050ER | 74HC541 | 20 | Octal buffer/line driver tri-state | .33 | .27 |
| 46084ER | 74HC574 | 20 | Octal D-type flip-flop tri-state | .33 | .27 |
| 46105ER | 74HC595 | 16 | 8-bit serial-to-parallel shift reg. tri-state | .62 | .44 |
| 272057ER | 74HC4049N | 16 | Hi speed HEX inverting buffers | .36 | .34 |
| 272073ER | 74HC4050N | 16 | Hi speed HEX non-inverting buffers | .38 | .33 |
| 88102ER | 74HC4051N | 16 | Single 8-channel multiplexer/demultiplexer | .30 | .26 |
| 272090ER | 74HC4052N | 16 | Hi speed analog multiplexer/demultiplexer | .39 | .30 |
| 272129ER | 74HC4053N | 16 | Hi speed analog multiplexer/demultiplexer | .32 | .31 |
| 45971ER | 74HC4066N | 14 | Quad analog switch | .35 | .30 |

## 74HCT Series

More @ www.Jameco.com/74HCT

✳ Prepackaged: order in increments of 10

| Part No. | Cross Ref. | Pins | Description | 1 | 10 |
|---|---|---|---|---|---|
| 44871ER | 74HCT00 | 14 | Quad 2-input NAND gate (Y560820T) | $.24 | $.20 |
| 44898ER | 74HCT04 | 14 | Hex inverter | .23 | .20 |
| 44901ER | 74HCT08 | 14 | Quad 2-input AND gate | ✳ | .141 |
| 44935ER | 74HCT14 | 14 | Hex inverter Schmitt trigger | .20 | .158 |
| 45057ER | 74HCT32 | 14 | Quad 2-input OR gate | ✳ | .149 |
| 45137ER | 74HCT74 | 14 | Dual D flip-flop | .25 | .21 |
| 44927ER | 74HCT138 | 16 | 3-to-8 decoder/demultiplexer | .33 | .282 |
| 63773ER | 74HCT139 | 16 | 2-to-4 decoder/demultiplexer | .32 | .266 |
| 88057ER | 74HCT154 | 24 | 4-to-16 decoder/demultiplexer | 1.05 | .82 |

## 74HCT Series (Continued)

More @ www.Jameco.com/74HCT

| Part No. | Cross Ref. | Pins | Description | 1 | 10 |
|---|---|---|---|---|---|
| 45014ER | 74HCT240 | 20 | Octal inverting line driver tri-state | $.32 | $.29 |
| 45022ER | 74HCT244 | 20 | Octal driver tri-state | .36 | .32 |
| 45031ER | 74HCT245 | 20 | Octal transceiver tri-state | .37 | .30 |
| 45049ER | 74HCT273 | 20 | Octal D-type flip-flop with clear | ~~$0.38~~ .30 | .26 |
| 45065ER | 74HCT373 | 20 | Octal D-type flip-flop tri-state | .39 | .299 |
| 45073ER | 74HCT374 | 20 | Octal D-type flip-flop edge-trig. TS | ~~$0.34~~ .24 | .20 |
| 99303ER | 74HCT541 | 20 | Octal buffer/line driver tri-state | .41 | .35 |
| 45090ER | 74HCT573 | 20 | Octal D-type latched flip-flop tri-state | .35 | .30 |
| 45102ER | 74HCT574 | 20 | Octal D-type flip-flop edge-trigger tri-state | .39 | .30 |
| 45129ER | 74HCT688 | 20 | 8-bit magnitude comparator | .58 | .49 |

## 74F Series

Expanded Selection

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✳ Prepackaged: order in increments of 10

| Part No. | Cross Ref. | Pins | Description | 1 | 10 |
|---|---|---|---|---|---|
| 286985ER | 74F00 | 14 | Quad 2-input NAND gate | ✳ | $.141 |
| 286993ER | 74F02 | 14 | Quad 2-input NOR gate | .254 | .216 |
| 287005ER | 74F04 | 14 | Hex inverter | .21 | .158 |
| 287013ER | 74F08 | 14 | Quad 2-input AND gate | .20 | .158 |
| 287021ER | 74F14 | 14 | Hex inverter w/Schmitt trigger | .22 | .191 |
| 287030ER | 74F20 | 14 | Dual 4-input NAND gate | .21 | .174 |
| 287048ER | 74F32 | 14 | Quad 2-input OR gate | .20 | .183 |
| 287064ER | 74F86 | 14 | Quad 2-input NOR gate | .32 | .266 |
| 287072ER | 74F138 | 16 | 3 to 8 decoder/demultiplexer | .37 | .299 |
| 287081ER | 74F139 | 16 | 1 of 4 decoder/demultiplexer | .26 | .216 |
| 287110ER | 74F244 | 20 | Octal buffer/driver w/3-state outputs | .39 | .299 |
| 287144ER | 74F245 | 20 | Octal bus transceiver w/3-state outputs | .53 | .402 |
| 287099ER | 74F273 | 20 | Octal D-type flip-flop | .48 | .415 |
| 287161ER | 74F373 | 20 | Octal transparent D-type latch w/ 3-state outputs | .45 | .398 |
| 287187ER | 74F374 | 20 | Octal edge trig. D-type flip-flop w/ 3-state outputs | .35 | .274 |
| 287195ER | 74F573 | 20 | Octal reg. latch with 3-state outputs | .39 | .299 |

## 74LS Series

More @ www.Jameco.com/74LS

| Part No. | Cross Ref. | Pins | Description | 1 | 10 |
|---|---|---|---|---|---|
| 46252ER | 74LS00** | 14 | Quad 2-input NAND gate | $.29 | $.27 |
| 46287ER | 74LS02** | 14 | Quad 2-input NOR gate | .29 | .25 |
| 46316ER | 74LS04** | 14 | Hex inverter | .29 | .26 |
| 46341ER | 74LS05* | 14 | Hex inverter (O.C.) | .41 | .33 |
| 46367ER | 74LS07 | 14 | Hex buffer/driver (O.C. hi-voltage) | .55 | .52 |
| 46375ER | 74LS08** | 14 | Quad 2-input AND gate | .36 | .31 |
| 46404ER | 74LS10* | 14 | Triple 3-input NAND gate | .30 | .20 |
| 46439ER | 74LS11* | 14 | Triple 3-input AND gate | .41 | .31 |
| 46640ER | 74LS14* | 14 | Hex inverter Schmitt trigger | .29 | .25 |
| 47095ER | 74LS20* | 14 | Dual 4-input NAND gate | .28 | .21 |
| 47458ER | 74LS30* | 14 | 8-input NAND gate | .38 | .33 |
| 47466ER | 74LS32** | 14 | Quad 2-input OR gate | .29 | .26 |
| 47693ER | 74LS38 | 14 | Quad 2-input NAND gate buffer (O.C.) | ~~$0.29~~ .26 | .20 |
| 47790ER | 74LS47* | 16 | BCD to 7-seg. decoder/driver (O.C.) | .72 | .52 |
| 47811ER | 74LS48 | 16 | BCD to 7-seg. decoder/driver | 4.99 | 4.24 |
| 47992ER | 74LS73* | 14 | Dual JK flip-flop with clear | .32 | .27 |
| 48004ER | 74LS74** | 14 | Dual D flip-flop | .29 | .25 |
| 48021ER | 74LS75* | 16 | 4-bit bi-stable latch | .86 | .73 |
| 48039ER | 74LS76 | 16 | Dual JK flip-flop with preset and clear | .69 | .62 |
| 48071ER | 74LS85* | 16 | 4-bit magnitude comparator | .43 | .33 |
| 48098ER | 74LS86* | 14 | Quad EXCLUSIVE-OR gate | .35 | .30 |
| 48119ER | 74LS90* | 14 | Decade counter | .49 | .45 |
| 48151ER | 74LS93* | 14 | 4-bit binary counter | .89 | .79 |
| 46480ER | 74LS123* | 16 | Dual mono. multivibrator with clear | .45 | .35 |
| 46501ER | 74LS125* | 14 | Quad bus buffer neg. enable tri-state | .46 | .35 |
| 46607ER | 74LS138** | 16 | 3 to 8 decoder/demultiplexer | .38 | .35 |
| 46623ER | 74LS139* | 16 | 2 to 4 decoder/demultiplexer | .41 | .35 |
| 46703ER | 74LS151* | 16 | 8-bit input multiplexer | .39 | .35 |
| 46738ER | 74LS154 | 24 | 4 to 16 line decoder/demultiplexer | 5.15 | 4.59 |
| 46754ER | 74LS155* | 16 | Dual 2/4 demultiplexer | .56 | .47 |
| 46771ER | 74LS157* | 16 | Quad 2/1 data selector | .36 | .31 |
| 46818ER | 74LS161 | 16 | Synch 4-bit counter | .51 | .44 |
| 46851ER | 74LS164 | 14 | 8-bit serial shift register | .43 | .36 |
| 46931ER | 74LS174* | 16 | Hex D flp-flop with clear | .34 | .29 |

*10 pieces in 74LS kit, pg 35 **20 pieces in 74LS kit, pg 35

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## 74LS Series (Continued)

More @ www.Jameco.com74LS

| Part No. | Cross Ref. | Pins | Description | 1 | 10 |
|---|---|---|---|---|---|
| 46957ER | 74LS175* | 16 | Quad D flip-flop with clear | $.40 | $.31 |
| 46990ER | 74LS190 | 16 | Synchronous up/down counter | 1.71 | 1.54 |
| 47010ER | 74LS192 | 16 | Decade up/down counter with clear | 3.95 | 3.59 |
| 47036ER | 74LS193* | 16 | Binary up/down counter with clear | .59 | .49 |
| 47141ER | 74LS240* | 20 | Octal invert. line driver tri-state | .39 | .30 |
| 47167ER | 74LS241 | 20 | Octal bus/line driver tri-state | .36 | .31 |
| 47183ER | 74LS244* | 20 | Octal driver tri-state | .44 | .37 |
| 47212ER | 74LS245* | 20 | Octal bus transceiver tri-state | .45 | .39 |
| 47247ER | 74LS247 | 16 | BCD to 7-segment decoder/driver (O.C.) | .94 | .80 |
| 47386ER | 74LS273* | 20 | Octal D-tyoe flip-flop with clear | .39 | .31 |
| 47600ER | 74LS373* | 20 | Octal D flip-flop tri-state | .45 | .39 |
| 47634ER | 74LS374* | 20 | Octal D F/F edge-trig tri-state | .45 | .39 |
| 47669ER | 74LS377 | 20 | Octal D register common enable | .24 | .16 |
| 47722ER | 74LS390 | 16 | Dual 4-bit decade counter | .69 | .59 |
| 47861ER | 74LS540 | 20 | Octal invert. buffer/line driver tri-state | .89 | .74 |
| 47870ER | 74LS541 | 20 | Octal buffer/line driver tri-state ~~$0.69~~ | .46 | .39 |
| 64418ER | 74LS573 | 20 | Octal D-type F/F latch tri-state | 2.06 | 1.81 |
| 47984ER | 74LS688 | 20 | 8-bit magnitude comparator | .88 | .75 |

*10 pieces in 74LS kit, pg 35 **20 pieces in 74LS kit, pg 35

## 74AHC Series

Expanded Selection

More @ www.Jameco.com/74AHC

| Part No. | Cross Ref. | Pins | Description | 1 | 10 |
|---|---|---|---|---|---|
| 214092ER | 74AHC00N | 14 | Quad 2-input positive NAND gate | $.32 | $.27 |
| 214105ER | 74AHC02N | 14 | Quad 2-input positive NOR gate | .32 | .27 |
| 214113ER | 74AHC04N | 14 | Hex inverter | .32 | .27 |
| 214130ER | 74AHC14N | 14 | Hex inverter with Schmitt trigger input | .32 | .29 |
| 214148ER | 74AHC32N | 14 | Quad 2-input positive OR gate | .36 | .29 |
| 214156ER | 74AHC74N | 14 | Dual D-type pos. edge-trigg. flip-flop | .26 | .22 |
| 243213ER | 74AHC138N | 16 | 3-line to 8-line decoders/demultiplexers | .40 | .324 |
| 214172ER | 74AHC240N | 20 | Octal buffer/driver w/ 3-st. outputs | .31 | .28 |
| 214181ER | 74AHC244N | 20 | Octal buffer/driver w/ 3-st. outputs | .33 | .27 |
| 214199ER | 74AHC245N | 20 | Octal bus transceiver w/ 3-st. outputs | .33 | .27 |
| 214201ER | 74AHC373N | 20 | Octal transprt. D-type latch w/ 3-st. outputs | .26 | .24 |
| 214210ER | 74AHC374N | 20 | Octal edge-trig. D-type flip-flop w/ 3-st. outputs | .26 | .24 |
| 214228ER | 74AHC541N | 20 | Octal buffer/driver w/ 3-state outputs | .33 | .27 |
| 214236ER | 74AHC574N | 20 | Octal edge-trig. D-type flip-flop w/ 3-st. outputs | .33 | .27 |

## 74AHCT Series

Expanded Selection

More @ www.Jameco.com/74AHCT

| Part No. | Cross Ref. | Pins | Description | 1 | 10 |
|---|---|---|---|---|---|
| 43844ER | 74AHCT00N | 14 | Quad 2-input positive NAND gate | $.21 | $.15 |
| 43852ER | 74AHCT02N | 14 | Quad 2-input positive NOR gate | .32 | .266 |
| 43861ER | 74AHCT04N | 14 | Hex inverter | .30 | .266 |
| 63431ER | 74AHCT08N | 14 | Quad 2-input positive AND gate | .30 | .22 |
| 63458ER | 74AHCT14N | 14 | Hex inverter with Schmitt trigger input | .32 | .27 |
| 43924ER | 74AHCT74N | 14 | Dual D-type pos. edge-triggered flip-flop | .32 | .27 |
| 243248ER | 74AHCT138N | 16 | 3-line to 8-line decoders/demultiplexers | .36 | .32 |
| 243256ER | 74AHCT139N | 16 | Dual 2-line to 4-line decoders/demultiplexers ~~$0.40~~ | .26 | .252 |
| 214244ER | 74AHCT240N | 20 | Octal buffer/driver w/ 3-state outputs | .26 | .22 |
| 63466ER | 74AHCT244N | 20 | Octal buffer/driver w/ 3-state outputs | .26 | .216 |
| 43887ER | 74AHCT245N | 20 | Octal bus transceiver w/ 3-state outputs | .33 | .27 |
| 43908ER | 74AHCT373N | 20 | Octal transparent D-type latch w/ 3-st. outputs | .26 | .22 |
| 43916ER | 74AHCT374N | 20 | Octal edge-trig. D-type flip-flop w/ 3-st. outputs | .26 | .22 |
| 214252ER | 74AHCT574N | 20 | Octal edge-trig. D-type flip-flop w/ 3-st. outputs | .39 | .299 |

## 9000 Series

| Part No. | Cross Ref. | Pins | Description | 1 | 10 |
|---|---|---|---|---|---|
| 53663ER | 9368 | 16 | FND70 driver/latch | $4.49 | $3.95 |
| 10567ER | AM9513APC ✤ | 40 | System timing controller | 39.95 | 35.95 |

✤ Pull = Extra Savings

## DALLAS SEMICONDUCTOR Semiconductor

More @ www.Jameco.com/IC

| Part No. | Product No. | Pins | Description | 1 | 10 |
|---|---|---|---|---|---|
| 133410ER | DS1216C | 28 | Smartwatch/RAM 64K/256k | $31.85 | $27.69 |
| 114278ER | DS1225AB-150 | 28 | 64k nonvol. SRAM 5%pwr, 4.62V WP | 17.29 | 14.49 |
| 177113ER | DS1230Y-100 | 28 | 256k nonvol. SRAM 10%pwr, 4.37V WP | 17.75 | 13.75 |
| 176778ER | DS1302 | 8 | Trickle charge time keeping IC | 2.49 | 2.25 |

## DALLAS SEMICONDUCTOR Semiconductor (Continued)

More @ www.Jameco.com/IC

| Part No. | Product No. | Pins | Description | 1 | 10 |
|---|---|---|---|---|---|
| 114374ER | DS1387 ✤ | 24 | RAMified real time clock 4kx8 | $8.59 | $7.99 |
| 114382ER | DS1620 | 8 | Digital thermometer & thermostat | 6.29 | 5.05 |
| 133452ER | DS12887 ✤ | 24 | Real time clock chip | 8.15 | 6.25 |

✤ Pull = Extra Savings

## Maxim-Type Interface Series

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| Part No. | Cross Ref. | Pins | Description | 1 | 10 |
|---|---|---|---|---|---|
| 142535ER | MAX202CPE | 16 | +5V RS-232 trans. requires 0.1µF caps | $2.49 | $2.25 |
| 244241ER | MAX202EPE | 16 | +5V RS-232 Transceivers | 1.13 | .99 |
| 24811ER | MAX232CPE SP232ACP | 16 | +5V powered, dual RS-232 transmitter/ receiver (0°C to +70°C) | 2.19 | 1.75 |
| 106147ER | MAX232CWE✦ | 16 | +5V powered, dual RS-232 (SOIC) trans./rcvr. | 2.75 | 2.10 |
| 106155ER | MAX232EPE SP232AEP | 16 | +5V powered, dual RS-232 transmitter/receiver (-40°C to +85°C) | 2.49 | 2.25 |
| 106163ER | MAX233CPP SP233ACP | 20 | +5V powered, multichannel RS-232 drivers/receivers (no ext. components) | 5.75 | 5.18 |
| 106171ER | MAX235CPG SP235ACP | 24 | +5V powered, five RS-232 transmitter/ receiver (no ext. components) | 9.95 | 8.95 |
| 242085ER | MAX626CPA MIC4426N | 8 | Dual 1.5A-peak low-side MOSFET driver | 1.14 | .93 |
| 244195ER | MAX1487CPA | 8 | RS-485/RS-422 low-power transceivers | 2.45 | 1.89 |

✦ Surface mount

## Interface Series

More @ www.Jameco.com/IC

| Part No. | Cross Ref. | Pins | Description | 1 | 10 |
|---|---|---|---|---|---|
| 25232ER | MC3486P | 16 | Quad EIA-422/423 line rec. w/ 3-st. outputs | $.59 | $.49 |
| 25259ER | MC3487P | 16 | Quad EIA-422 line driver w/ 3-state outputs | .69 | .59 |
| 291670ER | MAX712CPE | 16 | NiCD/NiMH battery fast charge controller | 6.99 | 5.59 |
| 50964ER | 75176BN | 8 | Differential bus transceiver | .65 | .55 |
| 23157ER | 75188N | 14 | Quad line driver RS-232 (DS1488N) | .29 | .25 |
| 23181ER | 75189N | 14 | Quad line rec. RS-232 (DS1489N) | .29 | .20 |
| 51131ER | 79L12CZ | 14 | Hex digit driver (492) | 4.25 | 3.89 |

## Digital Interface ICs

More @ www.Jameco.com/IC

### Stepper Motor Controllers

Designed to interface a logic level input byte to a stepper motor.

| Part No. | Product No. | Pins | Description | 1 | 10 |
|---|---|---|---|---|---|
| 141532ER | EDE1200 | 18 | Unipolar stepper motor controller | $8.30 | $6.90 |
| 157526ER | EDE1204 | 18 | Bipolar stepper motor controller | 8.30 | 6.90 |

## 5000 Series and Clock Chips

More @ www.Jameco.com/IC

| Part No. | Cross Ref. | Pins | Description | 1 | 10 |
|---|---|---|---|---|---|
| 32803ER | TCM5089N | 16 | Integrated tone dialer chip | $4.99 | $4.49 |
| 25101ER | MC146818 ✤ | 24 | Real time clock plus RAM | 4.09 | 3.48 |

✤ Pull = Extra Savings

## Decoders/Encoders

NEW

More @ www.Jameco.com/IC

| Part No. | Product No. | Pins | Description | 1 | 10 |
|---|---|---|---|---|---|
| 287945ER | MCP2140-I/P | 18 | IrDA controller, +DTE/DCE endec | $2.29 | $2.26 |
| 296702ER | MC145026P | 16 | Encoder, 9-line, simplex, OSC | 1.99 | 1.29 |
| 296711ER | MC145027P | 16 | Decoder, 5-line simplex, OSC | 2.25 | 1.55 |
| 296729ER | MC145028P | 16 | Decoder, 5-line simplex, OSC | 2.75 | 1.85 |

## Linear and Interface IC Kit

SAVE $57

**10 each:** TL072CP, TL074CN, TL082CP, TL084CN, MAX232CPE, LM301N, LM308N, LM311N, LM337T, LF353N, LF356N, LM358N, LM386N-1, LM386N-3, LM393N, LF411CN, LF412CN, LMC555CN, LM556N, LM723CN, LM1458N, DS1488N, DS1489N, ULN2003AN, ULN2803A, NE5532N, 7808T, 78L12CZ, 7815T, 7905T, 7912CT, 7915CT

**20 each:** LM317T, LM324N, LM339N, LM741CN, LM555CN, 7805T, 78L05CZ, 7812T

| Part No. | Description | Wt. (lbs.) | 1 | 10 |
|---|---|---|---|---|
| 84988ER | 480 pcs. (40 types) analog IC kit | 6.0 | $182.95 | $164.65 |

COLOR CODE LEGEND... NEW SALE REFURBISHED CLOSEOUT

Thousands of new ICs are in the pipeline for addition and not shown below. Call us to see if you can save 10-20%.

## Servo Motor Controller

More @ www.Jameco.com/IC

Controllers operate from standard 8-bit serial interface (RS-232 or RS-485). Using RS-485, any mix of up to 32 controllers may be operated from a single serial port. Complete documentation.

**PIC-SERVO Motion Control Chipset for DC Motors**

- PIC servo control for DC motors with digital encoders
- 32-bit position, velocity, and acceleration resolution
- PWM and direction outputs connect to servo amplifier
- Two chip set (PIC-SERVO 28-pin and PIC-ENC 18-pin)

NEW

| Part No. | Cross Ref. | Pkg. | Description | 1 | 10 |
|---|---|---|---|---|---|
| 146472ER | — | 28/18 | KAE PIC-SERVO chip set, 0.3" DIP | $34.95 | $29.50 |
| 288067ER | L297/1 | DIP-20 | 5V stepper motor controller | 5.49 | 5.25 |
| 288091ER | L6202 | DIP-18 | 36V DMOS full bridge motor driver | 7.85 | 6.39 |
| 288112ER | L6506 | DIP-18 | 5V stepper motor current controller | 4.25 | 3.49 |

## A/D & D/A Converters

Expanded Selection

More @ www.Jameco.com/IC

| Part No. | Cross Ref. | Pins | Description | 1 | 10 |
|---|---|---|---|---|---|
| 43756ER | 7107CPL | 40 | 3 1/2-digit LED single-chip A/D converter | $3.19 | $2.59 |
| 289588ER | TLC540IN | 20 | 8-bit A/D w/MUX, sample & hold, serial, 75kHz | 3.35 | 3.15 |
| 289625ER | TLC541IN | 20 | 8-bit A/D w/MUX, sample & hold, serial, 40kHz | 2.85 | 2.69 |
| 289692ER | TLC542CN | 20 | 8-bit A/D w/OSC., 25kHz | 2.55 | 2.47 |
| 289713ER | TLC545CN | 28 | 8-bit A/D w/MUX, sample & hold, serial, 76kHz | 5.45 | 5.35 |
| 289756ER | TLC548CP | 8 | 8-bit A/D w/sample & hold, 1-channel, 45kHz | 2.35 | 1.99 |
| 289810ER | TLC549CP | 8 | 8-bit A/D w/sample & hold, 1-channel, 45kHz | 1.99 | 1.76 |
| 10153ER | ADC0804LCN | 20 | 8-bit A/D converter (1 LSB) | 2.49 | 1.89 |
| 10170ER | ADC0808CCN | 28 | 8-bit A/D convtr. w/ 8-ch. multiflexer | 4.99 | 4.19 |
| 10188ER | ADC0809CCN | 28 | 8-bit A/D convtr. w/ 8-ch. multiflexer | 2.89 | 2.59 |
| 116100ER | ADC0831CCN | 8 | 8-bit A/D converter w/ single diff. input | 1.95 | 1.75 |
| 290491ER | TLV0831CP | 8 | 8-bit A/D multiplexer, serial, 49kHz | 2.39 | 2.15 |
| 290554ER | TLV0832CP | 8 | 8-bit A/D multiplexer, serial, 45kHz | 2.39 | 2.29 |
| 290571ER | TLV0834IN | 14 | 8-bit A/D, multiplexer, serial, 41kHz | 2.65 | 2.57 |
| 290618ER | TLV0838CDW | 20 | 8-bit A/D, multiplexer, serial, 38kHz | 2.65 | 2.55 |
| 289019ER | TLC1541CN | 20 | 10-bit A/D, 11-input serial, 32kHz | 6.09 | 5.85 |
| 289107ER | TLC1542CN | 20 | 10-bit A/D, 11-input serial, 32kHz | 4.55 | 4.39 |
| 289465ER | TLC2543CN | 20 | 12-bit A/D, 11-input serial, 66kHz | 8.35 | 7.95 |
| 290669ER | TLV2543CDW | 20 | 12-bit A/D, 11-channel, serial | 8.35 | 7.95 |
| 115158ER | AD558JN | 16 | Microprocessor compat. 8-bit DAC | 12.59 | 11.99 |
| 128186ER | DAC0832LCN | 20 | 8-bit µP D/A conv. dbl. buff. (.05% Lin.) | 3.09 | 2.99 |
| 289836ER | TLC5620CN | 14 | 8-bit D/A, 4-channel, serial | 2.89 | 2.72 |
| 289879ER | TLC5628CN | 16 | 8-bit D/A, 8-channel, serial | 4.65 | 4.55 |
| 290976ER | TLV5628CN | 16 | 8-bit D/A, 8-channel, serial | 4.69 | 3.79 |
| 290052ER | TLC7524CN | 16 | 8-bit D/A, multiplier, parallel | 2.75 | 2.39 |
| 290087ER | TLC7528CN | 20 | 8-bit D/A, multiplier, parallel | 2.69 | 2.25 |
| 290263ER | ICL7135CPI | 28 | 4 1/2-digit precision AD converter | 5.79 | 4.70 |
| 287339ER | AD7628KN | 20 | 8-bit D/A 2-input (+/-1lbs.), 350ns | 4.35 | 3.79 |

## Voltage Regulators

Expanded Selection

More @ www.Jameco.com/IC

✳ Prepackaged: please order in increments of 10

| Part No. | Cross Ref. | Pkg. | Description | 1 | 10 |
|---|---|---|---|---|---|
| 23579ER | LM317T** | TO-220/3 | 1.5A adj. pos. reg. (1.2V-37V) | $.45 | $.39 |
| 23667ER | LM323K | TO-3/2 | 5V 3A positive reg. | 2.89 | 2.75 |
| 23819ER | LM337T* | TO-220/3 | 1.5A/adj. neg. reg. (-1.2V-37V) | $0.69 .59 | .55 |
| 23835ER | LM338K | TO-3/2 | 5A adj. pos. reg. (1.2V-32V) | 4.95 | 3.89 |
| 192284ER | LM338T | TO-220/3 | 5A adjustable regulator | 1.99 | 1.49 |
| 23940ER | LM350T | TO-220/3 | 3 amp. adj. power regulator | 1.09 | .89 |
| 24467ER | LM723CN* | DIP-14 | Voltage regulator (2V-37V) | .26 | .24 |
| 290626ER | LM2596T | TO-220/7 | Simple switcher 3A step-down volt. reg., pwr. con. | 3.89 | 2.99 |
| 291012ER | LM2675N | 8-Dip | Simple switcher 1A step-down volt. reg., pwr. con. | 3.65 | 2.99 |
| 23368ER | LM2931CT | TO-220/5 | 3V-24V low dropout regulator | .66 | .62 |
| 51262ER | 7805T** | TO-220/3 | 5V 1A pos. voltage reg. (LM340T-5) | .35 | .32 |
| 51182ER | 78L05** | TO-92 | 5V 100mA pos. voltage regulator | .27 | .24 |
| 192233ER | 78M05 | TO-220/3 | 5V 500mA pos. voltage regulator | .35 | .32 |
| 51300ER | 7808T* | TO-220/3 | 8V 1A pos. voltage reg. (LM340T-8) | .46 | .35 |
| 192225ER | 78L09 | TO-92 | 9V 100mA pos. voltage regulator | .24 | .23 |
| 51334ER | 7812T** | TO-220/3 | 12V 1A pos. voltage reg. (LM340T-12) | .35 | .32 |
| 51203ER | 78L12* | TO-92 | 12V 100mA pos. voltage regulator | ✳ | .19 |
| 192241ER | 78M12 | TO-220/3 | 12V 500mA pos. voltage regulator | .31 | .27 |
| 51457ER | 7905T* | TO-220/3 | 5V 1A neg. voltage regulator | .42 | .38 |
| 51481ER | 7912CT* | TO-220/3 | 12V 1A neg. voltage regulator | .31 | .27 |
| 51431ER | 79L12 | TO-92 | 12V 100mA neg. voltage regulator | .23 | .21 |

*10 pieces in Linear kit, pg 35 **20 pieces in Linear kit, pg 35

| TO-3 package | TO-92 package | TO-220 package | DIP package |
|---|---|---|---|
| | | | |

## Linear Series

✳ Prepackaged: please order in increments of 10

| Part No. | Cross Ref. | Pkg. | Description | 1 | 10 |
|---|---|---|---|---|---|
| 25751ER | MF10CN | DIP-20 | General purpose dual active filter | $3.09 | $2.37 |
| 120723ER | LM12CLK | TO-3/4 | 80W op amp. | 23.45 | 21.10 |
| 107094ER | LM34CZ | TO-92 | Prec. F temp. sensor (-40˚F to +230˚F) | 4.90 | 4.52 |
| 155192ER | LM34DZ | TO-92 | Prec. F temp. sensor (+32˚F to +212˚F) | 1.99 | 1.67 |
| 302560ER | LM35CAZ | TO-92 | Precision centigrade temperature sensor | 5.19 | 4.14 |
| 107107ER | LM35CZ | TO-92 | Prec. C temp. sensor (-40˚C to 110˚C) | $5.79 5.35 | 4.10 |
| 192217ER | LM35DT | TO-220/3 | Prec. C temp. sensor (-55˚C to 150˚C) | 2.55 | 1.92 |
| 33195ER | TL072CP* | DIP-8 | Low noise JFET dual op amp. | .26 | .25 |
| 33216ER | TL074CN* | DIP-14 | Low noise JFET quad op amp. | .48 | .43 |
| 33267ER | TL084CN* | DIP-14 | JFET input quad op amp. | .43 | .40 |
| 239329ER | DG211CJ | DIP-16 | SPST quad channel analog switch | 1.99 | 1.75 |
| 23464ER | LM308N* | DIP-8 | Precision op amp. | 4.49 | 3.99 |
| 23528ER | LM311N* | DIP-8 | Voltage comparator | .35 | .25 |
| 23608ER | LM318N | DIP-8 | Precision hi-speed op amp. | .59 | .54 |
| 23632ER | LM319N | DIP-14 | Hi-speed dual comparator | .41 | .36 |
| 212169ER | LM324AN | DIP-14 | Low power quad op amp. | .25 | .23 |
| 23683ER | LM324N** | DIP-14 | Low power quad op amp. (ULN4336) | .28 | .24 |
| 23721ER | LM331N | DIP-8 | Prec. volt to freq. convrtr. (150ppm/°C) | 2.19 | 1.69 |
| 23739ER | LM334Z | TO-92 | Adjust current source | .72 | .65 |
| 23851ER | LM339N** | DIP-14 | Quad comparator | ✳ | .19 |
| 121099ER | LP339N | DIP-14 | Quad low-power comparator | .38 | .365 |
| 120862ER | LM358AN | DIP-8 | Low power dual op amp. (elect improv.) | $0.45 .29 | .25 |
| 23966ER | LM358N* | DIP-8 | Low power dual op amp. | .27 | .23 |
| 24088ER | LM383T | TO-220/5 | 7-watt audio high power amp. | 5.95 | 5.39 |
| 24133ER | LM386N-3* | DIP-8 | Low voltage audio amp. 500mW/9V | .69 | .59 |
| 24281ER | LM393N* | DIP-8 | Dual comparator | .20 | .18 |
| 23000ER | LF398N | DIP-8 | Sample and hold circuit | $1.59 1.09 | 1.00 |
| 245489ER | DG405DJ | DIP-16 | Improved dual hi-speed analog switches | 3.25 | 2.97 |
| 119950ER | LF412ACN | DIP-8 | Dual JFET op-amp. | 3.79 | 3.40 |
| 256487ER | DG444DJ | DIP-16 | Improved quad SPST analog switch | 1.39 | 1.30 |
| 27422ER | LM555CN** | DIP-8 | Timer (MC1455P/NE555V) | .27 | .23 |
| 126797ER | LMC555CN* | DIP-8 | CMOS 555 timer | .54 | .49 |
| 24328ER | LM556N* | DIP-14 | Dual 555 timer (MC3456P) | .77 | .57 |
| 24352ER | LM565N | DIP-14 | Phased locked loop | 1.59 | 1.20 |
| 24395ER | LM567V | DIP-8 | Tone decoder | .48 | .45 |
| 27490ER | NE571N | DIP-16 | Compander, subscriber | 3.29 | 2.99 |
| 115174ER | AD620AN | DIP-8 | Low cost instrument amplifier | $17.95 16.15 | 14.85 |
| 115182ER | AD633JN | DIP-8 | Low cost analog multiplier | 7.75 | 6.97 |
| 120926ER | LM675T | TO-220/5 | Power op amp. | $6.95 6.19 | 5.25 |
| 288403ER | MAX693CPE | DIP-16 | Microprocessor watchdog/battery | 6.49 | 3.86 |
| 297684ER | MAX694CPA | DIP-8 | Microprocessor supervisory circuit | 6.59 | 3.86 |
| 24539ER | LM741CN** | DIP-8 | Op amp. (ULN2151) | .29 | .25 |
| 24563ER | LM747CN | DIP-14 | Dual 741 op amp. | 4.19 | 3.85 |
| 239265ER | LT1004CZ-2.5 | TO-92 | 2.5V, micropower voltage reference | .68 | .52 |
| 24942ER | MC1350P | DIP-8 | Video IF amp (12V operation) | 1.95 | 1.85 |
| 23131ER | LM1458N* | DIP-8 | Dual op amp. | .29 | .26 |
| 23211ER | LM1496N | DIP-14 | Balanced mod./demodulator (MC1496P) | .65 | .60 |
| 23270ER | LM1875T | TO-220/5 | 20-watt power audio amp. | 1.95 | 1.55 |
| 107140ER | LM1881N | DIP-8 | Video synchronous separator | 2.69 | 2.05 |
| 243547ER | LM1894N | DIP-14 | DNR noise reduction | 2.79 | 2.14 |
| 34278ER | ULN2003A* | DIP-16 | Hi-volt/curr. darl. transistor array | .39 | .32 |
| 34972ER | XR2206 | DIP-16 | Monolithic function generator | 3.59 | 3.29 |
| 34315ER | ULN2803A* | DIP-18 | Hi-volt. hi-curr. darl. transistor array | .69 | .59 |
| 23296ER | LM2901N | DIP-14 | Quad comparator | .25 | .21 |
| 23350ER | LM2917N-8 | DIP-8 | Frequency to volt converter | 1.89 | 1.46 |
| 12183ER | CA3130E | DIP-8 | CMOS op amp. | .81 | .78 |
| 12204ER | CA3140E | DIP-8 | Bi-MOS op amp. | .59 | .55 |
| 12239ER | CA3161E | DIP-16 | BCD to 7-seg. decoder driver | 2.13 | 1.95 |
| 25216ER | MC3479P | DIP-16 | Biphase stepper motor driver | 3.99 | 3.39 |
| 192516ER | LM3886T | TO-220/11 | 68W high perf. audio amp. with mute | $5.19 4.35 | 3.32 |
| 24168ER | LM3900N | DIP-14 | Quad amp. (CA3401) | .77 | .65 |
| 24230ER | LM3914N | DIP-18 | Bar-graph display driver | 2.55 | 2.15 |

*10 pcs. in Linear series IC cabinet kit, pg 35 **20 pieces in Linear kit, pg 35

Thousands of new ICs are in the pipeline for addition and not shown below. Call us to see if you can save 10-20%.

| TO-3 package | TO-92 package | TO-220 package | DIP package |
|---|---|---|---|
| | | | |

## Linear Series (continued)

More @ www.Jameco.com/Linear

| Part No. | Cross Ref. | Pkg. | Description | 1 | 10 |
|---|---|---|---|---|---|
| 300003ER | LM3914N-1 | DIP-18 | Dot/bar display driver | $1.65 | $1.54 |
| 24256ER | LM3915N | DIP-18 | 3 dB steps bar-graph disp. driver | 2.49 | 1.99 |
| 24272ER | LM3916N | DIP-18 | VU meter display driver | 2.25 | 1.95 |
| 243580ER | LM4040AIZ-5.0 | TO-92 | 5.0V, precision micropower volt. reference | 1.79 | 1.68 |
| 25275ER | MC4044P | DIP-14 | Frequency phase detector (11C44) | 9.99 | 7.49 |
| 29356ER | RC4136N | DIP-14 | Quad op amp (XR4136) | .74 | .68 |
| 243379ER | MM5453N | DIP-40 | Liquid crystal display driver | 2.79 | 2.29 |
| 27385ER | NE5532* | DIP-8 | Dual low noise op amp. | .72 | .55 |
| 27406ER | NE5534 | DIP-8 | Low noise op amp. | .78 | .66 |

*10 pcs. in Linear series IC cabinet kit, pg 35

## Linear Series (Continued)

More @ www.Jameco.com/Linear

| Part No. | Cross Ref. | Pkg. | Description | 1 | 10 |
|---|---|---|---|---|---|
| 251900ER | LMC7111AIN | DIP-8 | Tiny CMOS op amp w/ rail to rail I/O | $1.55 | $1.14 |
| 51140ER | 7555IPA | DIP-8 | CMOS timer (LM555CN) | .33 | .31 |
| 241808ER | ICL7665SCPA | DIP-8 | 2-16V voltage detector | 2.45 | 2.20 |
| 241816ER | ICL7673 | DIP-8 | Auto battery backup switch, 2.5V to 15V ~~$1.29~~ | 1.05 | .93 |
| 51879ER | 8038CCPD | DIP-14 | Precision wave form generator | 3.29 | 3.15 |
| 241875ER | FAN8082 | DIP-8 | Bi-directional, 18V dc motor driver | .95 | .90 |
| 241867ER | FAN8200 | DIP-14 | Bi-directional, 2-ch, 18V stepper motor driver | .85 | .80 |
| 25021ER | MC14411P | DIP-24 | Bit rate frequency generator ~~$6.95~~ | 4.95 | 3.83 |
| 241841ER | MC14467 | DIP-16 | Smoke detector ~~$1.59~~ | 1.35 | .83 |
| 25064ER | MC14490P | DIP-16 | Hex contact bounce eliminator | 6.95 | 6.25 |
| 241832ER | MC145012 | DIP-16 | Smoke detector ~~$2.79~~ | 2.19 | 1.53 |
| 118586ER | MC145151P✤ | DIP-28 | Parallel input PLL freq. synthesizer | 5.85 | 4.97 |

✤ Pull = Extra Savings

*Your #1 Source of Electronic Components*

# Optoisolators

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## Optoisolators

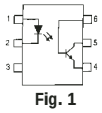


Fig. 1

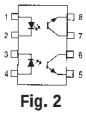


Fig. 2

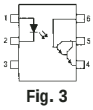


Fig. 3

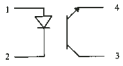


Fig. 4

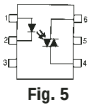


Fig. 5

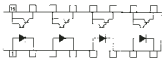


Fig. 6

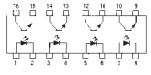


Fig. 7

114091ER

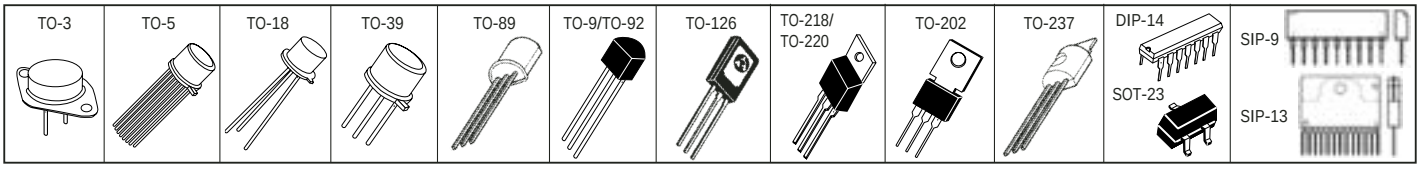
40985ER

| Part No. | Product No. | Mfg. | Fig. | Pins | Description | Forward (V) | Input Current (mA) | Blocking Voltage (V) | Isolation (kV) | Pricing 1 | Pricing 10 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 40985ER | 4N25 | ✦ | 1 | 6 | Diode, NPN photo transistor | 1.5 | 10 | 30 | 2.5 | $.21 | $.166 |
| 41005ER | 4N26 | ✦ | 1 | 6 | Diode, NPN photo transistor | 1.5 | 10 | 30 | 1.5 | .25 | .193 |
| 41056ER | 4N35 | ✦ | 1 | 6 | Diode, NPN photo transistor | 1.5 | 10 | 30 | 3.5 | .39 | .35 |
| 41021ER | 4N32 | ✦ | 3 | 6 | Diode, NPN photo-darlington | 1.5 | 10 | 30 | 2.5 | .26 | .24 |
| 41030ER | 4N33 | ✦ | 3 | 6 | Diode, NPN photo-darlington | 1.5 | 10 | 30 | 1.5 | .25 | .24 |
| 114091ER | H21A1 | ✦ | 4 | 4 | Single channel, slotted interrupter | 1.7 | 60 | 30 | — | .69 | .64 |
| 24918ER | MCT6 | ✦ | 2 | 8 | Dual channel NPN photo transistor | 1.3 | 100 | 30 | 7.5 | .56 | .52 |
| 26278ER | MOC3010 | ✦ | 5 | 6 | Bilateral triac driver | 1.5 | 50 | 250 | 7.5 | .56 | .52 |
| 95038ER | MOC3021 | ✦ | 5 | 6 | Bilateral triac driver | 1.5 | 10 | 400 | 7.5 | .53 | .472 |
| 160338ER | PS2501-4 | ✦ | 7 | 16 | Photo Darlington & Transistor/Detector | 1.2 | 20 | — | — | 1.09 | 1.02 |
| 160362ER | PS2502-4 | ✦ | 6 | 16 | Photo Darlington & Transistor/Detector | 1.2 | 10 | — | — | 1.76 | 1.61 |

✦ Manufacturer varies

# NTE Replacement and Design Semiconductors

Please call our sales rep. if you cannot find a specific NTE replacement product. We also offer special pricing on large quantity orders.




## Integrated Circuits

| Part No. | Cross Ref. | Pkg. | Description | 1 | 10 |
|---|---|---|---|---|---|
| 260161ER | NTE778A | DIP-8 | Dual operational amplifier | $2.38 | $2.29 |
| 260179ER | NTE823 | DIP-8 | Low voltage audio amplifier | 1.52 | 1.49 |
| 260187ER | NTE858M | DIP-8 | Dual low noise JFET input op amp. | 2.62 | 2.41 |
| 260195ER | NTE859 | DIP-14 | Quad low noise JFET input op amp. | 3.73 | 3.55 |
| 260216ER | NTE941 | TO-5/8 | Operational amplifier | 5.85 | 5.69 |
| 260224ER | NTE941M | DIP-8 | Operational amplifier | .92 | .88 |
| 260232ER | NTE947D | DIP-14 | Dual operational amplifier | 4.93 | 4.58 |
| 260241ER | NTE955M | DIP-8 | Timing circuit | 1.29 | 1.25 |
| 260347ER | NTE987 | DIP-14 | Quad low power operational amplifier | 1.96 | 1.85 |
| 260355ER | NTE999 | TO-92 | Adjustable precision shunt regulator | 1.02 | .99 |
| 260128ER | NTE1714M | DIP-8 | Remote control amplifier/driver | 4.99 | 4.19 |
| 260136ER | NTE2014 | DIP-16 | 7-channel darlington array drivers | 2.84 | 2.69 |
| 260144ER | NTE2018 | DIP-18 | 8-channel darlington array drivers | 3.29 | 3.15 |

## Integrated Circuits (continued)

| Part No. | Cross Ref. | Pkg. | Description | 1 | 10 |
|---|---|---|---|---|---|
| 259291ER | NTE4001B | DIP-14 | Quad 2-input NOR gate | $.68 | $.65 |
| 259303ER | NTE4006B | DIP-14 | 18 stage static shift register | 2.82 | 2.77 |
| 259311ER | NTE4013B | DIP-14 | Dual D flip-flop w/ set/reset | 1.10 | 1.06 |
| 259320ER | NTE4049 | DIP-16 | Hex buffer/converter (inverting) | 1.22 | 1.18 |
| 259338ER | NTE4066B | DIP-14 | Quad bilateral switch | 1.42 | 1.37 |
| 259346ER | NTE4093B | DIP-14 | Quad 2-input NAND Schmitt trigger | 1.05 | 1.02 |
| 260152ER | NTE7039 | SIP-13 | Vert. deflection output circuit w/ drive circuit | 3.19 | 3.09 |
| 259354ER | NTE7407 | DIP-14 | Hex buffer/driver | 1.29 | 1.25 |
| 259362ER | NTE7408 | DIP-14 | Quad 2-input AND gate | 1.06 | 1.03 |
| 259389ER | NTE7475 | DIP-16 | 4-bit bi-stable latch | 3.89 | 3.71 |
| 259371ER | NTE74121 | DIP-14 | Monostable multivibrator | 2.29 | 2.21 |
| 259397ER | NTE75189 | DIP-14 | Quad line receiver | 1.22 | 1.18 |

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# NTE Replacement and Design Semiconductors

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## Voltage Regulators

| Part No. | Cross Ref. | Pkg. | Description | 1 | 10 |
|---|---|---|---|---|---|
| 261358ER | NTE309K | TO-3 | +5V, 1A voltage regulator | $8.02 | $7.85 |
| 260208ER | NTE931 | TO-3 | +5V, 3A voltage regulator | 11.60 | 11.02 |
| 260259ER | NTE960 | TO-220 | +5V, 1A voltage regulator | 1.65 | 1.59 |
| 260267ER | NTE961 | TO-220 | -5V, 1A voltage regulator | 1.65 | 1.59 |
| 260275ER | NTE962 | TO-220 | +6V, 1A voltage regulator | 1.32 | 1.28 |
| 260283ER | NTE964 | TO-220 | +8V, 1A voltage regulator | 1.29 | 1.25 |
| 260291ER | NTE966 | TO-220 | +12V, 1A voltage regulator | 1.65 | 1.59 |
| 260304ER | NTE967 | TO-220 | -12V, 1A voltage regulator | 1.65 | 1.59 |
| 260312ER | NTE968 | TO-220 | +15V, 1A voltage regulator | 1.65 | 1.59 |
| 260321ER | NTE971 | TO-220 | -24V, 1A voltage regulator | 4.65 | 4.39 |
| 260339ER | NTE972 | TO-220 | +24V, 1A voltage regulator | 1.65 | 1.59 |
| 261331ER | NTE1914 | TO-3 | +12V, 1A voltage regulator | 3.75 | 3.72 |
| 261340ER | NTE1915 | TO-3 | -12V, 1A voltage regulator | 3.89 | 3.85 |

## Transistors

| Part No. | Cross Ref. | Pkg. | Description | 1 | 10 |
|---|---|---|---|---|---|
| 261083ER | NTE47 | TO-92 | NPN high gain, low noise | $.61 | $.59 |
| 261104ER | NTE48 | TO-92 | NPN darlington, high current | .95 | .92 |
| 261112ER | NTE55 | TO-220 | PNP complimentary trans., high freq. driver | 3.56 | 3.39 |
| 261139ER | NTE85 | TO-92 | NPN general purpose | .84 | .79 |
| 260507ER | NTE100 | TO-18 | PNP germanium comp. trans. oscillator | 3.15 | 3.09 |
| 260515ER | NTE102 | TO-18 | PNP germanium comp. trans. pwr output driver | 3.69 | 2.49 |
| 260523ER | NTE108 | TO-92 | NPN high frequency amp. | 1.34 | 1.29 |
| 260531ER | NTE123 | TO-18 | NPN general purpose audio amp., switch | .75 | .73 |
| 260540ER | NTE123A | TO-18 | NPN comp. transistor, general purpose | 1.07 | 1.04 |
| 260558ER | NTE123AP | TO-92 | NPN audio amplifier switch | .86 | .79 |
| 260566ER | NTE128 | TO-39 | NPN comp. trans., audio output, video driver | 1.19 | 1.15 |
| 260574ER | NTE128P | TO-237 | NPN comp. transistor, general purpose | 1.29 | 1.25 |
| 260582ER | NTE129 | TO-237 | PNP comp. transistor, general purpose | 2.26 | 2.19 |
| 260591ER | NTE130 | TO-3 | NPN audio pwr amp., medium speed switch | 2.76 | 2.52 |
| 260603ER | NTE154 | TO-39 | NPN high voltage video output | 2.82 | 2.65 |
| 260611ER | NTE159 | TO-92 | PNP audio amplifier switch | .96 | .91 |
| 260620ER | NTE172A | TO-92 | NPN darlington pre-amp., med. sp. switch | .62 | .61 |
| 260638ER | NTE175 | TO-3 | NPN comp. trans., hi volt. med. pwr switch | 3.30 | 3.25 |
| 260646ER | NTE181 | TO-3 | NPN high power audio amplifier | 6.60 | 6.29 |
| 260654ER | NTE184 | TO-126 | NPN comp. trans. audio pwr amp., switch | 1.81 | 1.75 |
| 260662ER | NTE185 | TO-126 | PNP comp. trans. audio pwr amp., switch | 1.90 | 1.85 |
| 260671ER | NTE196 | TO-220 | NPN comp. trans. audio pwr output&med. pwr switch | 2.43 | 2.39 |
| 260689ER | NTE199 | TO-92 | NPN low noise, high gain amplifier | .67 | .65 |
| 260777ER | NTE234 | TO-92 | PNP low noise, high gain amplifier | .89 | .85 |
| 260822ER | NTE238 | TO-3 | NPN color TV horizontal output | 5.55 | 5.49 |
| 260857ER | NTE247 | TO-3 | NPN comp. trans. darlington power amp. | 5.27 | 4.99 |
| 260865ER | NTE253 | TO-126 | NPN comp. trans. darlington power amp. | 1.53 | 1.49 |
| 260881ER | NTE261 | TO-220 | NPN comp. trans. darlington power amp. | 2.28 | 2.22 |
| 260890ER | NTE262 | TO-220 | PNP comp. trans. darlington power amp. | 2.52 | 2.49 |
| 260902ER | NTE263 | TO-220 | NPN comp. trans. darlington power amp. | 2.52 | 2.39 |
| 260911ER | NTE264 | TO-220 | PNP comp. trans. darlington power amp. | 2.91 | 2.85 |
| 260929ER | NTE265 | TO-220 | NPN darlington power amplifier | 3.76 | 3.74 |
| 260937ER | NTE287 | TO-92 | NPN comp. trans. hi volt., general purpose | .87 | .85 |
| 260945ER | NTE288 | TO-92 | PNP comp. trans. hi volt., general purpose | .80 | .74 |
| 260953ER | NTE289A | TO-92 | NPN comp. transistor audio power amp. | 1.22 | 1.19 |
| 260961ER | NTE290A | TO-92 | PNP comp. transistor audio power amp. | 1.38 | 1.34 |
| 260970ER | NTE291 | TO-220 | NPN comp. trans. medium power amp., switch | 2.16 | 2.09 |
| 260988ER | NTE311 | TO-39 | NPN frequency multiplier driver, VHF/UHF | 2.78 | 2.75 |
| 260996ER | NTE316 | TO-39 | NPN high gain, low noise amp. | 3.10 | 3.02 |
| 261008ER | NTE331 | TO-220 | NPN comp. trans. audio power amp., switch | 2.89 | 2.74 |
| 261016ER | NTE332 | TO-220 | PNP comp. trans. audio power amp., switch | 2.89 | 2.75 |
| 261024ER | NTE373 | TO-126 | NPN comp. transistor audio amp. driver | 1.68 | 1.64 |
| 261032ER | NTE374 | TO-126 | PNP comp. transistor audio amp. driver | 1.73 | 1.65 |
| 261041ER | NTE378 | TO-220 | PNP comp. trans. pwr amp. driver output switch | 2.72 | 2.55 |
| 261059ER | NTE379 | TO-220 | NPN power amp. high voltage switch | 7.14 | 7.09 |

## Transistors (Continued)

| Part No. | Cross Ref. | Pkg. | Description | 1 | 10 |
|---|---|---|---|---|---|
| 261067ER | NTE397 | TO-39 | PNP power amp. & high speed switch | $2.74 | $2.51 |
| 261075ER | NTE399 | TO-92 | NPN high voltage video amp. | 2.75 | 2.64 |
| 261091ER | NTE473 | TO-39 | NPN RF power driver | 5.17 | 5.15 |
| 260700ER | NTE2300 | TO-3 | NPN high voltage horizontal output | 5.09 | 4.59 |
| 260718ER | NTE2311 | TO-218 | NPN high voltage high speed switch | 14.24 | 13.45 |
| 260726ER | NTE2312 | TO-220 | NPN high voltage high speed switch | 4.74 | 4.49 |
| 260734ER | NTE2322 | DIP-14 | PNP quad general purpose | 2.82 | 2.57 |
| 260742ER | NTE2324 | TO-220 | NPN color TV horiz. deflection output | 8.55 | 8.15 |
| 260751ER | NTE2329 | TO-126 | PNP comp. trans. audio power output | 5.75 | 5.69 |
| 260769ER | NTE2331 | TO-220 | NPN color TV horiz. deflection output w/ damper diode | 6.85 | 6.79 |
| 260785ER | NTE2343 | TO-220 | NPN comp. trans., darlington pwr amp., switch | 2.07 | 1.95 |
| 260793ER | NTE2344 | TO-220 | PNP comp. trans., darlington pwr amp., switch | 1.65 | 1.55 |
| 260806ER | NTE2349 | TO-3 | NPN darlington trans., hi curr. gen. purpose | 15.62 | 15.39 |
| 260814ER | NTE2353 | TO-220 | NPN TV horiz. deflection output w/ damper diode | 5.73 | 5.69 |
| 260831ER | NTE2408 | SOT-23 | NPN general purpose amp. (2/pk.) | 1.25 | 1.19 |
| 260849ER | NTE2409 | SOT-23 | PNP general purpose amp. (2/pk.) | 1.25 | 1.19 |
| 260873ER | NTE2543 | TO-220 | NPN darlington motor/relay driver | 3.29 | 3.25 |
| 261121ER | NTE6410 | TO-92 | Unijunction transistor | 4.79 | 4.75 |

## JFETs

| Part No. | Cross Ref. | Pkg. | Description | 1 | 10 |
|---|---|---|---|---|---|
| 260427ER | NTE457 | TO-92 | N-ch JFET general purpose | $1.04 | $.99 |
| 260435ER | NTE458 | TO-92 | N-ch JFET low noise, audio freq. amp. | 1.70 | 1.65 |

## MOSFETs

| Part No. | Cross Ref. | Pkg. | Description | 1 | 10 |
|---|---|---|---|---|---|
| 260443ER | NTE222 | TO-39 | Dual gate N-channel MOSFET | $10.56 | $9.59 |
| 260451ER | NTE2389 | TO-220 | N-ch enhancement mode hi speed switch | 5.35 | 5.15 |
| 260460ER | NTE2394 | TO-126 | N-ch enhancement mode hi speed switch | 11.25 | 11.19 |
| 260478ER | NTE2395 | TO-220 | N-ch enhancement mode high speed switch | 5.60 | 5.39 |
| 260486ER | NTE2397 | TO-220 | N-ch enhancement mode high speed switch | 5.60 | 5.39 |
| 260494ER | NTE2398 | TO-220 | N-ch enhancement mode high speed switch | 3.75 | 3.69 |

## Diodes

| Part No. | Cross Ref. | Pkg. | Description | 1 | 10 |
|---|---|---|---|---|---|
| 259418ER | NTE109 | DO-7 | Germanium fast switching | $1.18 | $1.14 |
| 259426ER | NTE112 | DO-35 | Silicon small signal schottky | 1.48 | 1.34 |
| 259434ER | NTE177 | DO-35 | Silicon general purpose | .30 | .28 |
| 259442ER | NTE519 | DO-7 | Silicon ultra fast switch | .34 | .31 |
| 259451ER | NTE570 | DO-7 | Silicon controlled avalanche diode | 1.23 | 1.19 |
| 259469ER | NTE583 | DO-7 | Schottky RF switch | 1.27 | 1.22 |
| 259477ER | NTE588 | DO-7 | Silicon 200V, 3A fast switch | 1.25 | 1.21 |
| 259485ER | NTE618 | Non-Std | Silicon tuning diode for AM radio, varactor | 1.79 | 1.75 |

## Zener Diodes

| Part No. | Cross Ref. | Pkg. | Voltage | Wattage | Qty. | 1 | 10 |
|---|---|---|---|---|---|---|---|
| 259565ER | NTE5010A | DO-35 | 5.1V | 1/2W | 1/pk. | $.39 | $.36 |
| 259573ER | NTE5021A | DO-35 | 12V | 1/2W | 1/pk. | .49 | .45 |
| 259581ER | NTE5024A | DO-35 | 15V | 1/2W | 1/pk. | .49 | .48 |
| 259493ER | NTE135A | DO-35 | 5.1V | 1W | 2/pk. | .53 | .51 |
| 259506ER | NTE136A | DO-35 | 5.6V | 1W | 2/pk. | .44 | .41 |
| 259514ER | NTE138A | DO-35 | 7.5V | 1W | 2/pk. | .53 | .50 |
| 259522ER | NTE142A | DO-35 | 12V | 1W | 2/pk. | .56 | .55 |
| 259531ER | NTE143A | DO-35 | 13V | 1W | 2/pk. | .44 | .41 |
| 259549ER | NTE145A | DO-35 | 15V | 1W | 2/pk. | .44 | .41 |
| 259557ER | NTE147A | DO-35 | 33V | 1W | 2/pk. | .44 | .41 |
| 259590ER | NTE5077A | DO-35 | 18V | 1W | 2/pk. | 1.42 | 1.38 |
| 259602ER | NTE5105A | DO-35 | 200V | 1W | 2/pk. | 1.86 | 1.78 |
| 259611ER | NTE5130A | DO-35 | 15V | 5W | 1/pk. | 1.46 | 1.39 |
| 259629ER | NTE5141A | DO-35 | 30V | 5W | 1/pk. | 2.05 | 2.01 |
| 259637ER | NTE5164A | DO-35 | 180V | 5W | 1/pk. | 2.05 | 2.01 |

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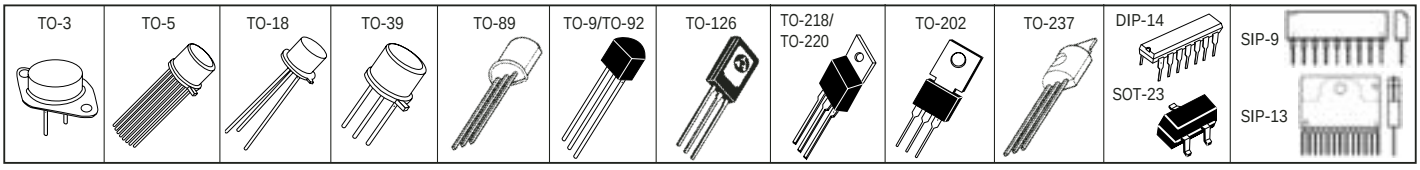


## Rectifiers

| Part No. | Cross Ref. | Pkg. | Description | PRV | AFC | 1 | 10 |
|---|---|---|---|---|---|---|---|
| 259813ER | NTE116 | DO-41 | Rectifier | 600V | 1A | $.49 | $.45 |
| 259821ER | NTE125 | DO-41 | Rectifier | 1000V | 2.5A | .50 | .48 |
| 259830ER | NTE156 | DO-41 | Rectifier | 1000V | 3A | .67 | .63 |
| 259645ER | NTE506 | DO-41 | Rectifier | 1400V | 2A | 1.10 | 1.06 |
| 259848ER | NTE541 | DO-35 | Rectifier | 8.4kV | 50A | 8.37 | 8.29 |
| 259856ER | NTE552 | DO-41 | Rectifier | 600V | 1A | .93 | .90 |
| 259864ER | NTE558 | DO-41 | Rectifier | 1500V | 1A | 1.68 | 1.63 |
| 259872ER | NTE569 | DO-41 | Rectifier | 600V | 3A | 1.12 | 1.03 |
| 259881ER | NTE574 | DO-41 | Rectifier | 400V | 1A | .58 | .53 |
| 259899ER | NTE576 | DO-41 | Rectifier | 400V | 5A | 1.86 | 1.79 |
| 259901ER | NTE577 | DO-41 | Rectifier | 1000V | 5A | 3.58 | 3.45 |
| 259910ER | NTE580 | SOD57 | Rectifier | 600V | 3A | 2.71 | 2.59 |
| 260021ER | NTE598 | TO-220/2 | Rectifier | 600V | 8A | 2.16 | 2.11 |
| 259928ER | NTE5800 | DO-41 | Rectifier | 50V | 3A | .33 | .31 |
| 259936ER | NTE5801 | DO-41 | Rectifier | 100V | 3A | .48 | .45 |
| 259944ER | NTE5804 | DO-41 | Rectifier | 400V | 3A | .60 | .56 |
| 259952ER | NTE5806 | DO-41 | Rectifier | 600V | 3A | .94 | .92 |
| 259961ER | NTE5809 | DO-41 | Rectifier | 1000V | 3A | 1.39 | 1.31 |
| 259979ER | NTE5812 | T6L | Rectifier | 100V | 6A | .91 | .87 |
| 259987ER | NTE5814 | T6L | Rectifier | 400V | 6A | 1.52 | 1.45 |
| 259995ER | NTE5815 | T6L | Rectifier | 600V | 6A | 2.49 | 2.27 |
| 260005ER | NTE5817 | T6L | Rectifier | 1000V | 6A | 2.28 | 2.14 |
| 260013ER | NTE5870 | DO-4 | Rectifier | 50V | 12A | 2.60 | 2.49 |
| 260030ER | NTE6013 | TO-220 | Rectifier | 600V | 12.7A isolated | 3.77 | 3.69 |
| 260048ER | NTE6240 | TO-220 | Rectifier | 200V | 16A | 3.94 | 3.77 |
| 259653ER | NTE166 | BR8D | Bridge rectifier | 100V | 2A | 1.10 | 1.06 |
| 259661ER | NTE167 | BR8D | Bridge rectifier | 200V | 2A | 1.75 | 1.69 |
| 259670ER | NTE168 | BR8D | Bridge rectifier | 400V | 2A | 1.93 | 1.86 |
| 259688ER | NTE170 | BR8D | Bridge rectifier | 1000V | 2A | 2.82 | 2.79 |
| 259696ER | NTE5304 | WOM | Bridge rectifier | 400V | 1.5A | 1.32 | 1.28 |
| 259709ER | NTE5305 | WOM | Bridge rectifier | 600V | 1.5A | 1.47 | 1.42 |
| 259717ER | NTE5312 | GBPC | Bridge rectifier | 100V | 8A | 3.88 | 3.70 |
| 259725ER | NTE5313 | GBPC | Bridge rectifier | 200V | 8A | 3.82 | 3.65 |
| 259733ER | NTE5314 | GBPC | Bridge rectifier | 400V | 8A | 3.93 | 3.74 |
| 259741ER | NTE5322 | TB35 | Bridge rectifier | 200V | 25A | 5.64 | 5.38 |
| 259750ER | NTE5326 | TB35 | Bridge rectifier | 600V | 25A | 7.59 | 7.20 |
| 259768ER | NTE5329 | BR8D | Bridge rectifier | 200V | 6A | 3.63 | 3.46 |
| 259776ER | NTE5332 | DIP-4 | Bridge rectifier | 600V | 1A | 1.52 | 1.45 |
| 259784ER | NTE5340 | Non-Std | Bridge rectifier | 200V | 40A | 9.00 | 8.57 |
| 259792ER | NTE5342 | Non-Std | Bridge rectifier | 600V | 40A | 11.37 | 10.79 |
| 259805ER | NTE5344 | Non-Std | Bridge rectifier | 1000V | 40A | 12.78 | 12.29 |

## Silicon Controlled Rectifiers (SCR)

| Part No. | Cross Ref. | Pkg. | Description | 1 | 10 |
|---|---|---|---|---|---|
| 260056ER | NTE5401 | TO-92 | 60 VRM 0.8A | $.97 | $.91 |
| 260064ER | NTE5402 | TO-92 | 100 VRM 0.8A | .97 | .89 |
| 260072ER | NTE5404 | TO-92 | 200 VRM 0.8A | 1.33 | 1.29 |
| 260081ER | NTE5457 | TO-202 | 400 VRM 4A | 1.33 | 1.29 |
| 260099ER | NTE5458 | TO-202 | 600 PRV 4A | 2.03 | 1.99 |

## Diacs/Triacs/Sidacs/TVS

| Part No. | Cross Ref. | Pkg. | Description | 1 | 10 |
|---|---|---|---|---|---|
| 261278ER | NTE4900 | DO-35 | TVS, 5.0V | $2.18 | $2.15 |
| 260110ER | NTE6404 | TO-89 | SUS, SI, 1.0A | 8.86 | 8.79 |
| 259400ER | NTE6408 | DO-35 | Diac | .94 | .90 |
| 260101ER | NTE6419 | Non-Std | Sidac, 110-125V | 2.06 | 1.99 |
| 261147ER | NTE5629 | TO-202 | Triac, 400 VRM, 4A | 1.98 | 1.89 |
| 261155ER | NTE5656 | TO-9 | Triac, 400 VRM, 0.8A | 1.08 | 1.05 |

## Varistors (MOV)

| Part No. | Cross Ref. | Pkg. | Description | 1 | 10 |
|---|---|---|---|---|---|
| 261286ER | NTE1V020 | 8.5mm | 20$V_{RMS}$, 20VDC, 1.5 joules | $1.03 | $.99 |
| 261294ER | NTE1V130 | 8.5mm | 135$V_{RMS}$, 180VDC, 10 joules | 1.08 | 1.03 |
| 261307ER | NTE2V130 | 16mm | 135$V_{RMS}$, 180VDC, 39 joules | 1.85 | 1.79 |
| 261315ER | NTE2V250 | 16mm | 240$V_{RMS}$, 320VDC, 70 joules | 2.66 | 2.54 |
| 261323ER | NTE524V25 | 23mm | 240$V_{RMS}$, 320VDC, 129 joules | 2.40 | 2.35 |

## Thermal Fuses

| Part No. | Cross Ref. | Description | Dimensions | 1 | 10 |
|---|---|---|---|---|---|
| 261163ER | NTE8076 | TCO 77˚C, 171˚F | 3.2"L x 1.6"Dia. | $1.13 | $1.09 |
| 261171ER | NTE8085 | TCO 87˚C, 189˚F | 3.2"L x 1.6"Dia. | 1.27 | 1.23 |
| 261180ER | NTE8090 | TCO 93˚C, 200˚F | 3.2"L x 1.6"Dia. | 1.13 | 1.09 |
| 261198ER | NTE8096 | TCO 98˚C, 208˚F | 3.2"L x 1.6"Dia. | 1.13 | 1.09 |
| 261201ER | NTE8098 | TCO 100˚C, 212˚F | 3.2"L x 1.6"Dia. | 1.13 | 1.09 |
| 261219ER | NTE8103 | TCO 104˚C, 220˚F | 3.2"L x 1.6"Dia. | 1.13 | 1.09 |
| 261227ER | NTE8118 | TCO 121˚C, 250˚F | 3.2"L x 1.6"Dia. | 1.13 | 1.09 |
| 261235ER | NTE8139 | TCO 141˚C, 286˚F | 3.2"L x 1.6"Dia. | 1.27 | 1.23 |
| 261243ER | NTE8181 | TCO 184˚C, 364˚F | 3.2"L x 1.6"Dia. | 1.13 | 1.09 |
| 261251ER | NTE8213 | TCO 216˚C, 421˚F | 3.2"L x 1.6"Dia. | 1.13 | 1.09 |
| 261260ER | NTE8242 | TCO 240˚C, 464˚F | 3.2"L x 1.6"Dia. | 1.13 | 1.09 |

## LEDs

| Part No. | Cross Ref. | Pkg. | Description | 1 | 10 |
|---|---|---|---|---|---|
| 260363ER | NTE1866 | SIP-9 | 5-point LED VU scale bar level meter driver | $2.01 | $1.96 |
| 260371ER | NTE3024* | T1¾ | Green 5mm, 2.1VF@20mA, 8.7mcd@10mA, 565nm | 1.31 | 1.24 |

* 2 ea. per pack

## Optoisolators

| Part No. | Cross Ref. | Pkg. | Description | 1 | 10 |
|---|---|---|---|---|---|
| 260380ER | NTE3040 | DIP-6 | NPN transistor output, 1.5V @ 10mA | $1.73 | $1.68 |
| 260398ER | NTE3041 | DIP-6 | NPN transistor output, 1.15V @ 10mA | 1.75 | 1.69 |
| 260401ER | NTE3044 | DIP-6 | NPN darl. trans. output, 1.15V @ 10mA | 2.33 | 2.25 |
| 260419ER | NTE3047 | DIP-6 | Triac driver output, 1.15V @ 10mA | 2.41 | 2.04 |

## NTE Hardware

| Part No. | Cross Ref. | Description | 1 | 10 |
|---|---|---|---|---|
| 259151ER | NTE303 | 1 gram tube of heat sink compound (5/pk.) | $1.63 | $1.55 |
| 259194ER | TP0001 | TO-3 Thermo pad (5/pk.) | 1.39 | 1.29 |
| 259282ER | TP0002 | TO-66 Thermo pad (5/pk.) | 1.15 | 1.12 |
| 259207ER | TP0003 | DO-5 Thermo pad (5/pk.) | .82 | .78 |
| 259215ER | TP0004 | TO-126 Thermo pad (5/pk.) | .69 | .65 |
| 259223ER | TP0005 | TO-218 Thermo pad (5/pk.) | 1.36 | 1.33 |
| 259231ER | TP0006 | TO-220 Thermo pad (5/pk.) | 1.01 | .95 |
| 259240ER | TP0007 | DO-5 Thermo pad (5/pk.) | 1.03 | .98 |
| 259258ER | TP0008 | TO-3 Thermo pad (5/pk.) | 1.15 | 1.12 |
| 259266ER | TP0009 | TO-36 Thermo pad (5/pk.) | 1.38 | 1.35 |
| 259274ER | TP0010 | TO-3PML Thermo pad (5/pk.) | 2.41 | 2.20 |
| 259178ER | NTE416 | DIP-16 16-pin DIP socket | 2.11 | 1.85 |
| 259186ER | NTE423 | DIP-8 8-pin DIP socket | 1.10 | 1.06 |
| 259160ER | NTE422 | TO-220 Insulator kit | 1.01 | .97 |

***Think NTE for high-quality, broad-tolerance components!***

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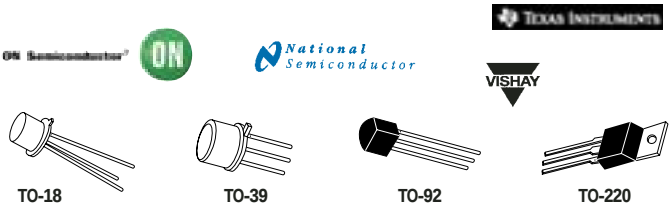
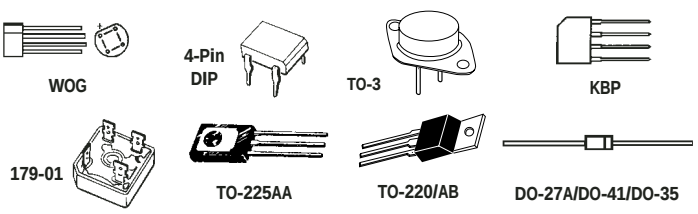



## Transistors

✳ Prepackaged: order in increments of 10

| Part No. | Product No. | Mfr. | Package | Desc. | Vceo | Min. $h_{FE}$ @ Ic | Pricing 1 | Pricing 10 |
|---|---|---|---|---|---|---|---|---|
| 297799ER | MPSA005 | ✦ | TO-92 | NPN | 60 | 100@.01A | ✳ | $.075 |
| 33048ER | TIP31A | ✦ | TO-220 | NPN | 60 | 10 @ 3A | .49 | .39 |
| 33064ER | TIP32A | ✦ | TO-220 | PNP | 60 | 10 @ 3A | .39 | .36 |
| 179240ER | TIP102 | FSC | TO-220 | NPN | 100 | 1k @ 3A | .53 | .47 |
| 32993ER | TIP120 | ✦ | TO-220 | NPN | 60 | 1k @ 3A | .49 | .45 |
| 179291ER | TIP120 | FSC | TO-220 | NPN | 60 | 1k @ 3A | .41 | .37 |
| 120416ER | TIP122 | ✦ | TO-220 | NPN | 100 | 1k @ 3A | .38 | .32 |
| 38228ER | 2N2219A | ✦ | TO-39 | NPN | 40 | 100 @ .15A | .41 | .37 |
| 28628ER | PN2222 | ✦ | TO-92 | NPN | 30 | 100 @ .15A | ✳ | .065 |
| 38236ER | 2N2222A | ✦ | TO-18 | NPN | 40 | 100 @ .15A | .39 | .35 |
| 28644ER | PN2907 | ✦ | TO-92 | PNP | 40 | 100 @ .15A | ✳ | .125 |
| 38279ER | 2N2907A | ✦ | TO-18 | PNP | 60 | 100 @ .15A | .36 | .34 |
| 25831ER | MJE2955T | ✦ | TO-220 | PNP | 60 | 20 @ 4A | .51 | .44 |
| 38295ER | 2N3053 | ✦ | TO-39 | NPN | 40 | 25 @ .15A | .47 | .43 |
| 38308ER | 2N3055 | ✦ | TO-3 | NPN | 60 | 15 @ 10A | .95 | .85 |
| 25857ER | MJE3055T | ✦ | TO-220 | NPN | 60 | 20 @ 4A | .48 | .46 |
| 209242ER | 2N3771 | ✦ | TO-3 | NPN | 40 | 15 @ 15A | 1.89 | 1.75 |
| 38359ER | 2N3904 | ✦ | TO-92 | NPN | 40 | 100 @ .01A | ✳ | .075 |
| 178597ER | 2N3904 | FSC | TO-92 | NPN | 40 | 100 @ .01A | ✳ | .09 |
| 178618ER | 2N3906 | FSC | TO-92 | PNP | 40 | 100 @ .01A | ✳ | .09 |
| 38421ER | 2N4401 | ✦ | TO-92 | NPN | 40 | 100 @ .15A | ✳ | .07 |
| 38447ER | 2N4403 | ✦ | TO-92 | PNP | 40 | 100 @ .15A | ✳ | .08 |
| 194600ER | 2N6059 | ✦ | TO-3 | NPN | 100 | 750 @ 6A | 1.59 | 1.55 |

✦ Manufacturer varies FSC = Fairchild Semiconductor

## Small-Signal High-Voltage

Prepackaged: order in increments of 10

| Part No. | Product No. | Package | Desc. | Vceo | Min. $h_{FE}$@Ic (mA) | 10 | 100 |
|---|---|---|---|---|---|---|---|
| 178546ER | MPSA42 | TO-92 | NPN | 300 | 40 @ 10 | $.086 | $.061 |

## Small-Signal General-Purpose

Prepackaged: order in increments of 10

| Part No. | Product No. | Package | Desc. | Vceo | Min. $h_{FE}$@Ic (mA) | 10 | 100 |
|---|---|---|---|---|---|---|---|
| 178511ER | PN2222A | TO-92 | NPN | 40 | 100 @ 150 | $.12 | $.08 |
| 178520ER | PN2907A | TO-92 | PNP | -60 | 100 @ 150 | .07 | .046 |
| 38375ER | 2N3906 | TO-92 | PNP | 40 | 100 @ 10 | .05 | .04 |

## N-Channel MOSFETs

Expanded Selection

✳ Prepackaged: order in increments of 10

| Part No. | Prod. No. | Mfr. | Package | Drain Source Brkdwn Volt. | Min. On-State DS Current | Pricing 1 | Pricing 10 |
|---|---|---|---|---|---|---|---|
| 209058ER | BUZ72L | ✦ | TO-220 | 100VDC | 10.0A | $.77 | $.55 |
| 209234ER | IRF510 | ✦ | TO-220 | 100VDC | 5.6A | .69 | .59 |
| 209226ER | IRF520 | ✦ | TO-220 | 100VDC | 10.0A | .55 | .48 |
| 210500ER | IRF530 | ✦ | TO-220 | 100VDC | 14.0A | .66 | .57 |
| 210518ER | IRF540 | ✦ | TO-220 | 100VDC | 27.0A | 1.05 | .95 |
| 210542ER | IRF640 | ✦ | TO-220 | 200VDC | 18.0A | .69 | .65 |
| 210569ER | IRF740 | ✦ | TO-220 | 400VDC | 10.0A | 1.25 | 1.10 |
| 210585ER | IRF830 | ✦ | TO-220 | 500VDC | 4.5A | .77 | .70 |
| 184719ER | IRF840 | ✦ | TO-220 | 500VDC | 8.0A | 1.49 | 1.29 |
| 178669ER | 2N7000 | FSC | TO-92 | 60VDC | 0.2A | .23 | .19 |
| 119423ER | 2N7000 | ✦ | TO-92 | 60VDC | 0.3A | ✳ | .11 |

✦ Manufacturer varies FSC = Fairchild Semiconductor

**Jameco's Low Price Guarantee**

## Full Wave Bridge Rectifiers

| Part No. | Product No. | Mfr. | Package | Description | 1 | 10 |
|---|---|---|---|---|---|---|
| 103018ER | W02G | ✦ | WO type | 200 PRV, 1A | $.38 | $.32 |
| 103042ER | DF02M | ✦ | 4-pin DIP | 200 PRV, 1A | .35 | .30 |
| 103034ER | DF06M | ✦ | 4-pin DIP | 600 PRV, 1A | .32 | .30 |
| 145429ER | KBP02M | ✦ | KBP type | 200 PRV, 1.5A | .40 | .35 |
| 25574ER | MDA990-3 | ✦ | 179-01 | 200 PRV, 30A | 3.99 | 3.45 |

✦ Manufacturer varies

## Triacs

| Part No. | Product No. | Mfr. | Package | Description | 1 | 10 |
|---|---|---|---|---|---|---|
| 140425ER | 2N6071A | ✦ | TO-225AA | 200 $V_{DRM}$, 4A | $.29 | $.27 |
| 31827ER | SC146M | ✦ | TO-220 | Triac,600 $V_{DRM}$,10A (2N6344) | 1.99 | 1.69 |

✦ Manufacturer varies

## Rectifiers

Prepackaged: order in increments of 10 or 100

| Part No. | Product No. | Mfr. | Package | Description | 10 | 100 |
|---|---|---|---|---|---|---|
| 35975ER | 1N4001 | ✦ | DO-41 | 50 PRV,1A | $.035 | $.025 |
| 76961ER | 1N4002 | ✦ | DO-41 | 100 PRV,1A | .039 | .025 |
| 76970ER | 1N4003 | ✦ | DO-41 | 200 PRV,1A | .035 | .025 |
| 36011ER | 1N4007 | ✦ | DO-41 | 1000 PRV,1A | .038 | .029 |
| 36265ER | 1N5404 | ✦ | DO-27A | 400 PRV,3A | .10 | .09 |
| 36273ER | 1N5408 | ✦ | DO-27A | 1000 PRV, 3A | .15 | .11 |
| 35991ER | 1N4004 | ✦ | DO-41 | 400 PRV,1A | .04 | .025 |
| 177949ER | 1N5817 | ✦ | DO-204AL | 20 PIV, 1A | .11 | .09 |
| 177818ER | T6A100L | ✦ | T6L | 1000 PIV, 6A | .65 | .59 |

✦ Manufacturer varies

## Silicon Controlled Rectifiers

Prepackaged: order in increments of 10 or 100

| Part No. | Product No. | Mfr. | Package | Description | 10 | 100 |
|---|---|---|---|---|---|---|
| 119802ER | 2N5060 | ✦ | TO-92 | 25 PRV,0.8A | $.19 | $.15 |
| 14761ER | C122M | ✦ | TO-220 | 600 PRV,8A(isolated) | 1.35 | 1.25 |

✦ Manufacturer varies

## Zener Diodes

Prepackaged: order in increments of 10 or 100

| Part No. | Product No. | Mfr. | Package | Description | 10 | 100 |
|---|---|---|---|---|---|---|
| 178781ER | 1N4733A | VSH | DO-41 | 5.1V @ 49mA 1 W | $.09 | $.06 |
| 36097ER | 1N4733A | ✦ | DO-41 | 5.1V @ 49mA 1 W | .08 | .065 |
| 36118ER | 1N4734A | ✦ | DO-41 | 5.6V @ 45mA 1 W | .064 | .05 |
| 36126ER | 1N4735A | VSH | DO-41 | 6.2V @ 41mA 1 W | .061 | .049 |
| 36169ER | 1N4742A | VSH | DO-41 | 12.0V @ 21mA 1 W | .07 | .055 |

✦ Manufacturer varies VSH = Vishay

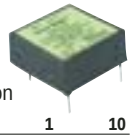
## Switching Diodes

Prepackaged: order in increments of 10 or 100

| Part No. | Product No. | Mfr. | Package | Description | 10 | 100 |
|---|---|---|---|---|---|---|
| 179207ER | 1N914 | VSH | DO-35 | 100 PRV (Switching) | $.05 | $.025 |
| 35967ER | 1N3600 | ✦ | DO-35 | 50 PRV @100µa, 200mA | .045 | .029 |
| 179215ER | 1N4148 | VSH | DO-35 | 100 PRV (Switching) | .04 | .03 |
| 36038ER | 1N4148 | ✦ | DO-35 | 75 PRV @ 50µa, 10mA | .036 | .027 |

✦ Manufacturer varies VSH = Vishay

## Black Magic Telephone Ring Generator



Switching inverter that produces low-frequency alternating current to signal telecom ringers or equivalents.

• Nominal output voltage: 86 Vrms • No reverse polarity protection

| Part No. | Product No. | Frequency | Series Resistor | 1 | 10 |
|---|---|---|---|---|---|
| 145816ER | LBMR12 | 20Hz | 300Ω | $26.95 | $24.49 |

## Heat Sinks

Our TO-3 / TO-220 heat sinks are made from black anodized aluminum (except for P / N 107297ER which is light weight aluminum). They can be mounted horizontally or vertically depending on your applications. P / N 164734ER has mounting clips and can be mounted vertically with solderable mounting tabs.

Thermalloy IERC AAVID Wakefield

16512ER

189835ER

More on our website www.Jameco.com

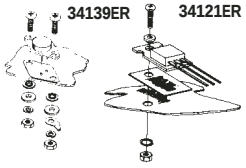
107297ER

158051ER

| Part No. | Mfr. Cross Reference No. | Type | Watts | Size (L" x W" x H") | Pricing 1 | Pricing 10 |
|---|---|---|---|---|---|---|
| 16512ER | DUDE4 | TO-3 | 30.0 | 4.8 x 1.5 x 1.3 | $2.95 | $2.75 |
| 189835ER | 635-5B2 | TO-3 | 8.0 | 1.9 x 1.4 x 0.5 | .95 | .86 |
| 158051ER | 577102B00000 | TO-220 | 2.0 | .75 x .52 x .38 | .39 | .35 |
| 107297ER | PSC2-U (cup-style) | TO-220 | 1.5 | 0.8 x 1.0 x 0.4 | .49 | .44 |
| 164734ER | THM6072 | TO-220 | 5.0 | 1.4 x 1.8 x 0.4 | .49 | .45 |

## Heat Sink Mounting Kits

- TO-3 and TO-220 heat sink insulator assemblies
- 10 kits per pack




| Part No. | Type | Description | 1 | 10 |
|---|---|---|---|---|
| 34139ER | TO-3 | 12-piece kit | $3.95 | $3.59 |
| 34121ER | TO-220 | 5-piece kit | 3.95 | 3.55 |

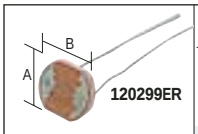
## Heat Sink Compound

Improves transfer of energy across the metal to metal interface between transistor or rectifier to heat sink. • Opaq. white

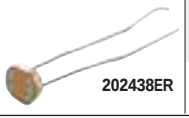
| Part No. | Product No. | Weight | 1 | 10 |
|---|---|---|---|---|
| 167249ER | THM250 | 2 oz. | $9.95 | $8.96 |

## CdS Photocells

• Applications include: auto-focus lenses, exposure meters, contrast controls for TVs, dimmer or light switches, flame detectors, electronic toys, street lamp switches, optocouplers • Soldering: 230°C for 3 seconds • Cadmium Sulfide (CdS) • Operating temperature: -30°C to +70°C • Generate variable signal based on detection of light levels



120299ER


202438ER

| Part No. | Mfr. Cross Ref. No. | Rating Vp | Rating mW | Resistance (Ω) Dark | Resistance (Ω) Light | Size (inches) A | Size (inches) B | Lead Spacing (inches) | Lead Length (inches) | Pricing 1 | Pricing 10 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 136055ER | CDST08 | 50 | 200 | 100k | 10k | 0.40 | 0.44 | 0.30 | 1.50 | $.89 | $.79 |
| 120310ER | CDS0029004 | 150 | 90 | 2M | 27k | 0.14 | 0.17 | 0.10 | 1.02 | 1.45 | 1.20 |
| 202391ER | CDS0029203 | 150 | 90 | 10M | 5k | 0.14 | 0.17 | 0.10 | 1.02 | 1.49 | 1.35 |
| 202403ER | CDS0018001 | 150 | 100 | 200k | 3k | 0.17 | 0.20 | 0.13 | 1.02 | 1.49 | 1.35 |
| 202438ER | CDS0037004 | 200 | 150 | 500k | 15k | 0.25 | 0.29 | 0.20 | 1.02 | 1.49 | 1.29 |
| 120301ER | CDS0037001 | 200 | 150 | 300k | 3k | 0.25 | 0.29 | 0.20 | 1.02 | 1.79 | 1.59 |
| 120299ER | CDS0045001 | 350 | 400 | 300k | 8k | 0.37 | 0.43 | 0.30 | 1.44 | 1.79 | 1.59 |
| 202454ER | CDS0045003 | 350 | 400 | 1M | 12k | 0.37 | 0.43 | 0.30 | 1.44 | 1.69 | 1.55 |

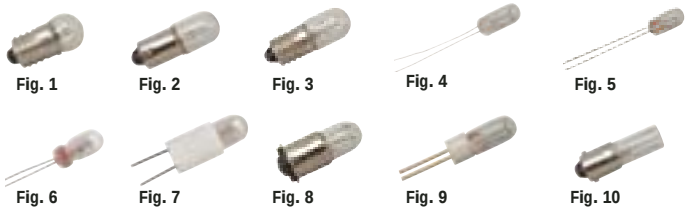
# Lamps

## Incandescent Lamps

SALE

✳ Prepackaged: order in increments of 5

| Mfr. Cross Part No. | Volts Ref. No. | Fig. | Description | Current (VDC) | (A) | MSCP | Pricing 1 | Pricing 5 |
|---|---|---|---|---|---|---|---|---|
| 209390ER | 14 | 1 | G3 1/2 miniature screw | 2.47 | .30 | .50 | $.55 | $.52 |
| 209437ER | 47 | 2 | T3 1/4 miniature bayonet | 6.3 | .15 | .50 | ✳ | .22 |
| 209883ER | 1821 | 3 | T3 1/4 screw | 28.0 | .17 | 3.4 | .99 | .89 |
| 141073ER | 2182 | 4 | T1 3/4 wire terminal | 14.0 | .08 | .30 | .49 | .44 |
| 141065ER | 2200 | 4 | T1 3/4 wire terminal | 5.0 | .06 | .05 | .59 | .54 |
| 141057ER | 6833 | 5 | T 3/4 wire terminal | 5.0 | .06 | .05 | 1.29 | 1.15 |
| 209998ER | 7219 | 6 | T1 wire terminal | 12.0 | .06 | .15 | ✳ | .29 |
| 210008ER | 7328 | 7 | T1 3/4 bi-pin | 6.0 | .20 | .60 | .89 | .79 |
| 210024ER | 7341 | 8 | T1 3/4 midget flange | 28.0 | .065 | .65 | .79 | .69 |
| 141006ER | 7361 | 7 | T1 3/4 bi-pin | 5.0 | .06 | .05 | .99 | .89 |
| 210032ER | 7382 | 7 | T1 3/4 bi-pin | 14.0 | .08 | .30 | .49 | .39 |
| 210075ER | 7715 | 9 | T1 bi-pin | 5.0 | .115 | .15 | 1.19 | .99 |
| 210091ER | 120MB | 10 | T2 miniature bayonet | 120 | .025 | 1200 | .69 | .65 |




***94 more incandescent lamps available @ www.Jameco.com***

*While you're there be sure to check out our selection of Neon Lamps.*

## Neon Lamps

✳ Prepackaged: order in increments of 5 or 10

| Part No. | Mfr. Cross Ref. No. | Fig. | Description | Voltage (VAC) | Current (mA) | Pricing 1 | Pricing 5 | Pricing 10 |
|---|---|---|---|---|---|---|---|---|
| 27351ER | A1A (NE-2) | 1 | Wire terminal | 65-120 | 0.5 | ✳ | $.35 | $.31 |
| 210243ER | A1B | 1 | Wire terminal | 65-120 | 0.3 | ✳ | .28 | .25 |
| 210251ER | A1C | 1 | Wire terminal | 65-120 | 1.2 | ✳ | .39 | .29 |
| 210260ER | A9A (NE-2E) | 1 | Wire terminal | 65-120 | 0.7 | ✳ | .29 | .25 |
| 210278ER | B1A (NE-51) | 2 | T3 1/4 miniature bayonet | 65-120 | 0.3 | .79 | .75 | .69 |
| 210286ER | B2A (NE-51H) | 2 | T3 1/4 miniature bayonet | 65-120 | 1.2 | .69 | .59 | .49 |

Fig. 1

Fig. 2

## Panel Mount LED Indicators

141129ER/141137ER

141111ER

- Panel/status/instrument indicators
- Easy panel installation • Chrome housing
- Vf @ If: 12V @ 20mA • Color: red

**141129ER:** • LED size: T1 • Mounting hole: .24"
**141111ER:** • LED size: T1 • Mounting hole: .23"
**141137ER:** • LED size: T1¾ • Mounting hole: .31"

| Part No. | Mfr. Cross Ref. No. | Dimensions (in.) L | Dimensions (in.) A | Dimensions (in.) B | Pricing 1 | Pricing 10 |
|---|---|---|---|---|---|---|
| 141129ER | L913RD | .56 | .39 | .32 | $1.09 | $.81 |
| 141111ER | L922SRD | .56 | .34 | .25 | .79 | .60 |
| 141137ER | L917RD | .70 | .55 | .47 | .89 | .79 |

## Neon Panel Mount Lamps

- Output voltage: *12V; †120V
- Solder terminals: 0.196" (5mm)
- Mounting hole diameter: 5/8" (16mm)

215802ER

| Part No. | Product No. | Color | 1 | 10 |
|---|---|---|---|---|
| 215714ER | R9-71B-05-12V-R* | Red | $1.79 | $1.59 |
| 215722ER | R9-71B-05-12V-Y* | Yellow | 1.79 | 1.59 |
| 215731ER | R9-71B-05-12V-G* | Green | 1.79 | 1.59 |
| 215802ER | R9-71N-05-120V-R† | Red | $1.79 | $1.59 |
| 215811ER | R9-71N-05-120V-Y† | Yellow | 1.79 | 1.59 |
| 215829ER | R9-71N-05-120V-G† | Green | 1.79 | 1.59 |

COLOR CODE LEGEND... NEW SALE REFURBISHED CLOSEOUT

## High-Output LEDs

- Typical DC forward current 20mA

See page 17 for LED Mounting Hardware

Fig. 1

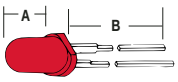


Fig. 2

| Part No. | Mfr. Cross Reference No. | Fig. | Emitting Color | Lens/Feature Description | LED Size | Diameter inch/mm | Dimensions A" | Dimensions B" | Lead Spacing | Typical Vf @ If (mA) | Typical mcd @ mA | Wavelength nm | Pricing 1 | Pricing 10 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **217525ER** | MCDPW-3004C | 1 | White | Water clear | T1 | .119/3 | 0.18 | 1.00 | 0.10 | 3.8 @ 20 | 3000 @ 20 | — | **$2.99** | **$2.85** |
| **142893ER** | CLP1509 | 1 | White | Water clear | T1 3/4 | .197/5 | 0.34 | 0.79 | 0.08 | 3.6 @ 20 | 3700 @ 20 | — | **3.95** | **3.59** |
| **183231ER** | T18W133196 | 1 | White | Water clear | T1 3/4 | .197/5 | 0.30 | 1.06 | 0.08 | 3.6 @ 20 | 3000 @ 20 | — | **2.95** | **2.65** |
| **183222ER** | MCDL513SBC4 | 1 | Blue | Water clear | T1 3/4 | .197/5 | 0.29 | 1.02 | 0.08 | 5.0 @ 20 | 3000 @ 20 | 470 | **3.25** | **2.95** |
| **183214ER** | MCDPG503PCI | 1 | Green | Water clear | T1 3/4 | .197/5 | 0.30 | 1.04 | 0.08 | 3.5 @ 20 | 2200 @ 20 | 515 | **2.95** | **2.65** |
| **131895ER** | TLSH180P | 1 | Orange | Water clear | T1 3/4 | .197/5 | 0.39 | 0.80 | 0.10 | 2.1 @ 20 | 7000 @ 20 | 623 | **2.49** | **2.19** |
| **197683ER** | BVT5E1QT4ER | 1 | Orange Red | Water clear | T1 3/4 | .197/5 | 0.29 | 1.08 | 0.08 | 2.3 @ 20 | 4650 @ 20 | 634 | **.69** | **.59** |
| **152864ER** | LT1873-81 | 1 | Super Brt. | Water clear | T1 3/4 | .197/5 | 0.34 | 0.89 | 0.10 | 1.7 @ 20 | 1000 @ 20 | 660 | **.29** | **.24** |
| **197616ER** | BVU5E1QH4E | 1 | Red | Water clear | T1 3/4 | .197/5 | 0.30 | 1.05 | 0.08 | 1.8 @ 20 | 2180 @ 20 | 630 | **.39** | **.35** |
| **215597ER** | LT2K33-81-UC9T | 1 | Yellow | Water clear | T1 3/4 | .197/5 | 0.31 | 0.89 | 0.10 | 2.2 @ 20 | 5000 @ 20 | 590 | **.59** | **.55** |
| **197675ER** | BVT5E1TT4E | 1 | Yellow | Water clear | T1 3/4 | .197/5 | 0.30 | 1.08 | 0.08 | 2.3 @ 20 | 2800 @ 20 | 592 | **.45** | **.36** |
| **197641ER** | BVT529T13E | 2 | Yellow | Yellow transparent | Oval | .170/.220 | 0.29 | 1.04 | 0.08 | 2.3 @ 20 | 7800 @ 20 | 590 | **.69** | **.62** |

## LED Displays

Expanded Selection

The general advantages of LED displays compared to incandescent types include:

- Lower power consumption
- Longer lifetime (averaged more than 300,000 hours)
- Compact size suitable for instrumentation and graphic representations

**Soldering:**

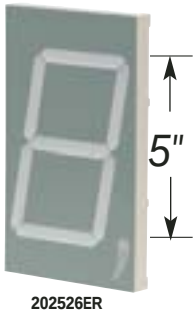
- Soldering bath: not more than 5 seconds @ 260°C
- Soldering iron: not more than 3 seconds @ 300°C under 30W

24740ER & 24782ER

17187ER

24723ER

225963ER



18737ER

18753ER

206017ER

32951ER

118906ER

202526ER

### 7-Segment Displays

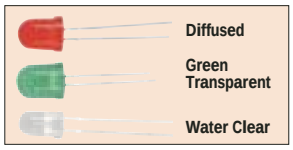
| Part No. | Mfr. Cross Reference No. | | Character Height | Illuminated Color | Buss Polarity* | Pins/ Leads | Typical Vf @ If (mA) | Typical mcd @ mA | Wavelength nm | Decimal Point # | Pricing 1 | Pricing 10 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **24731ER** | LSD3021-11 | NEW | .300" | Red | CA | 11 | 1.9 @ 20 | 0.3 @ 20 | 697 | RHDP | **$.87** | **$.70** |
| **24740ER** | LSD3221-11 | | .300" | Red | CA | 11 | 2.1 @ 20 | 2.5 @ 20 | 697 | LHDP | **.79** | **.72** |
| **151976ER** | LTS312AY | NEW | .300" | Yellow | CA | 11 | 2.8 @ 20 | 2.0 @ 10 | 585 | LHDP | **.34** | **.31** |
| **24782ER** | LSD3211-11 | | .300" | Red | CC | 10 | 2.1 @ 20 | 2.5 @ 20 | 697 | RHDP | **.89** | **.75** |
| **17187ER** | LSD5051-11 | | .500" | Red | CC | 10 | 2.1 @ 20 | 0.9 @ 20 | 697 | RHDP | **.89** | **.80** |
| **17208ER** | LSD5061-11 | | .500" | Red | CA | 10 | 2.1 @ 20 | 0.9 @ 20 | 697 | RHDP | **.89** | **.75** |
| **104213ER** | LSD5124-10 | NEW | .560" | Orange Red | CA | 10 | 2.0 @ 20 | 2.4 @ 20 | 635 | RHDP | **.89** | **.80** |
| **24715ER** | LDD5121-20 | | .560" | Red | 2-digit CA | 18 | 2.1 @ 20 | 0.8 @ 20 | 697 | RHDP | **1.25** | **1.05** |
| **24723ER** | LDD5111-11 | NEW | .560" | Red | 2-digit CC | 18 | 2.1 @ 20 | 0.8 @ 20 | 697 | RHDP | **1.25** | **1.05** |
| **24707ER** | LDD5114-20 | NEW | .560" | Orange Red | 2-digit CC | 18 | 2.0 @ 20 | 2.4 @ 20 | 635 | RHDP | **1.35** | **1.15** |
| **225963ER** | KW3-562A2B | NEW | .560" | Green | 3-digit CA | 28 | 2.2 @ 20 | 15 @ 20 | 568 | RHDP | **2.39** | **2.15** |
| **199582ER** | LC56311 | NEW | .560" | Yellow | CC | 8 | 2.1 @ 20 | 5.2 @ 20 | 589 | RHDP | **1.49** | **1.25** |
| **18737ER** | LSD816-11 | NEW | .800" | Orange Red | CA | 13 | 1.6 @ 20 | 0.9 @ 20 | 655 | RHDP | **1.49** | **1.35** |
| **18753ER** | LSD8151-10 | NEW | .800" | Red | CC | 13 | 2.1 @ 20 | 1.0 @ 20 | 697 | RHDP | **1.49** | **1.35** |
| **206017ER** | SC08-11HWA | NEW | .800" | Red | CC | 13 | 2.0 @ 20 | .36 @ 10 | 700 | RHDP | **1.49** | **1.35** |
| **176559ER** | C8021-1 | NEW | .800" | Green | CC | 13 | 2.0 @ 20 | 0.9 @ 20 | 568 | RHDP | **.49** | **.44** |
| **97172ER** | LSD10061-10 | NEW | 1.0" | Red | CA | 10 | 2.1 @ 20 | 2.0 @ 20 | 697 | RHDP | **1.39** | **1.25** |
| **97199ER** | LSD23265-10 | | 2.24" | Red | CA | 10 | 1.7 @ 20 | 21 @ 20 | 660 | RHDP | **5.75** | **5.19** |
| **97201ER** | LSD23255-10 | NEW | 2.24" | Red | CC | 10 | 1.7 @ 20 | 21 @ 20 | 660 | RHDP | **4.49** | **3.95** |
| **202518ER** | LSD30165-20 | NEW | 3.0" | Orange Red | CA | 10 | 8 @ 20 | 4.5 @ 10 | 635 | RHDP | **7.39** | **6.99** |
| **202542ER** | LSD30155-20 | NEW | 3.0" | Orange Red | CC | 10 | 8 @ 20 | 4.5 @ 10 | 635 | RHDP | **5.49** | **4.95** |
| **105591ER** | LSD40054-20† | | 4.0" | Orange Red | CC | 10 | 2.0 @ 20 | 18 @ 20 | 635 | RHDP | **9.49** | **8.29** |
| **202500ER** | LSD40064-20 | NEW | 4.0" | Orange Red | CA | 10 | 2.0 @ 20 | 18 @ 10 | 635 | RHDP | **10.49** | **9.49** |
| **202526ER** | LSD50065-20 | NEW | 5.0" | Red | CA | 10 | 17 @ 20 | 45 @ 10 | 660 | RHDP | **34.99** | **27.89** |
| **202534ER** | LSD50055-20 | NEW | 5.0" | Red | CC | 10 | 17 @ 20 | 45 @ 10 | 660 | RHDP | **17.95** | **14.35** |

† 5 diodes per segment

### Dot Matrix Displays

| Part No. | Mfr. Cross Reference No. | Jameco Socket Number | Character Height | Illuminated Color | Buss Polarity* | Pins/ Leads | Typical Vf @ If (mA) | Typical mcd @ mA | Wavelength nm | Decimal Point # | Pricing 1 | Pricing 10 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **173833ER** | HP5082-7300 | — | .290" | Red | 4x7 Numeric | 8 | 5.0 @ 170 | .3 @ 20 | 660 | RHDP | **$4.95** | **$4.46** |
| **32951ER** | TIL311 | 37161ER | .300" | Red | 4x7 Hex character | 11 | 5.0 @ 5 | 0.1 @ 5 | 660 | — | **16.95** | **14.35** |
| **118906ER** | LTP747R | 37161ER | .680" | Orange Red | 5 x 7 AC/CR | 12 | 1.7 @ 20 | 2 @ 20 | 655 | — | **1.95** | **1.79** |
| **183265ER** | LMD5821ASR-20 | — | 2.3" | Red | 5 x 8 CC/AR | 14 | 1.7 @ 20 | 3.2 @ 20 | 660 | — | **4.95** | **4.49** |

* CA-Common Anode/CC-Common Cathode/AC-Anode Column/CR-Cathode Row/AR-Anode Row  # LHDP-Left Hand Decimal Point / RHDP-Right Hand Decimal Point



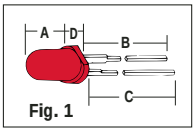



Fig. 1

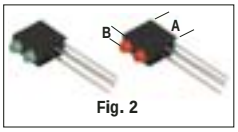


Fig. 2

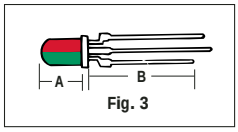


Fig. 3

## Standard-Output LEDs

✳ Prepackaged: order in increments of 10

| Part No. | Mfr. Cross Ref. No. | Fig. | Emitting Color | Lens/Feature Description | LED Size | Diameter inch/mm | Dimensions A" | Dimensions B" | Lead Spacing | Typical Vf @ If (mA) | Typical mcd @ mA | Wavelength nm | Pricing 1 | Pricing 10 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **34657ER** | LY2040 | 1 | Yellow | Yellow diffused (XC209Y) | T1 | .119/3 | 0.16 | 0.68 | 0.08 | 2.3 @ 20 | 15 @ 10 | 585 | ✳ | **$.13** |
| **114673ER** | LH2043 | 1 | Red | Water clear (BR209) | T1 | .119/3 | 0.14 | 0.98 | 0.07 | 2.3 @ 20 | 12 @ 10 | 697 | ✳ | **.19** |
| **94529ER** | LH2040 | 1 | Red | Red diffused (XC209RB) | T1 | .119/3 | 0.18 | 1.04 | 0.07 | 2.3 @ 20 | 4.5 @ 10 | 697 | ✳ | **.19** |
| **175679ER** | LVG2041 | 1 | Green | Green transparent | T1 | .119/3 | 0.17 | 0.69 | 0.08 | 2.2 @ 20 | 129 @ 20 | 565 | ✳ | **.15** |
| **34606ER** | LSG2040 | 1 | Green | Green diffused (XC209G) | T1 | .119/3 | 0.13 | 1.05 | 0.08 | 2.2 @ 20 | 15 @ 10 | 560 | ✳ | **.15** |
| **136274ER** | LA44B/2G | 2 | Green | Green diffused (dual) | T1 | .119/3 | 0.38 | 0.17 | 0.10 | 2.3 @ 20 | 15 @ 10 | 565 | **.49** | **.45** |
| **137411ER** | LVB2040 | 1 | Blue | Blue diffused | T1 | .119/3 | 0.21 | 0.98 | 0.10 | 4.8 @ 20 | 10 @ 20 | 430 | **2.49** | **2.25** |
| **34825ER** | LY3330 | 1 | Yellow | Yellow diffused (XC556Y) | T1 3/4 | .197/5 | 0.30 | 0.82 | 0.07 | 2.3 @ 20 | 12 @ 10 | 585 | ✳ | **.19** |
| **11797ER** | QLMP-D141 | 1 | Red | Water clear (BR5704) | T1 3/4 | .197/5 | 0.29 | 1.05 | 0.07 | 2.0 @ 20 | 350 @ 20 | 660 | ✳ | **.19** |
| **94511ER** | LH3330 | 1 | Red | Red diffused (XC556RB) | T1 3/4 | .197/5 | 0.31 | 0.81 | 0.08 | 2.3 @ 20 | 3 @ 10 | 697 | ✳ | **.17** |
| **134332ER** | LT18B3-81UR | 1 | Blue | Water clear | T1 3/4 | .197/5 | 0.30 | 0.93 | 0.10 | 3.8 @ 20 | 350 @ 20 | 428 | **2.65** | **2.45** |
| **138691ER** | LVB3330 | 1 | Blue | Blue diffused | T1 3/4 | .197/5 | 0.34 | 0.98 | 0.08 | 4.8 @ 20 | 10 @ 20 | 430 | **2.14** | **2.04** |
| **34761ER** | LG3330 | 1 | Green | Green diffused (XC556G) | T1 3/4 | .197/5 | 0.31 | 0.79 | 0.09 | 2.3 @ 20 | 12 @ 10 | 565 | ✳ | **.15** |
| **34711ER** | LEG3362 | 1 | Red/Green | White diffused bi-color/bi-state[1] | T1 3/4 | .197/5 | 0.30 | 1.01 | 0.09 | 2.3 @ 20 | 7.5 & 8 @ 20 | 635/565 | **.33** | **.28** |
| **34673ER** | LHG3392 | 3 | Red/Green | White diff. bi-color/tri-state | T1 3/4 | .197/5 | 0.30 | 1.02 | 0.03 | 2.3 @ 20 | 3 & 12 @ 10 | 697/565 | **.24** | **.22** |

1 Reverse polarity to change color

## LEDTECH LEDs

- Typical DC forward current 20mA

Ledtech is a QS9000 & ISO-9000 Certified Company

Expanded Selection

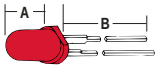


Fig. 1

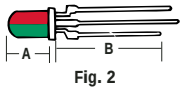


Fig. 2

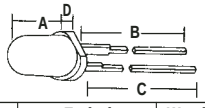
151415ER

✳ Prepackaged: order in increments of 10

| Part Number | Product Number | Fig. | Emitting Color | Lens/Feature Description | LED Size | Diameter (in./mm) | Dimensions A" | Dimensions B" | Lead Spacing | Typical Vf @ If (mA) | Typical mcd @ mA | Wavelength nm | Pricing 1 | Pricing 10 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **156953ER** | LT0373-41 NEW | 1 | Red Super Bright | Water clear | T1 | .119/3 | 0.21 | 1.07 | 0.08 | 1.7 @ 20 | 600 @ 20 | 660 | **$.24** | **$.22** |
| **156945ER** | LT0362-25-D61 NEW | 2 | Red/Green | White diff. bi-color tri-state | T1 | .119/3 | 0.16 | 0.87 | 0.08 | 2.1 @ 20 | 2.7/13.3 @ 20 | 700/567 | **.29** | **.25** |
| **152750ER** | LT0344R-41 | 1 | Orange Red | Red clear | T1 | .119/3 | 0.20 | 0.89 | 0.10 | 2.1 @ 20 | 52.9 @ 10 | 635 | ✳ | **.19** |
| **152784ER** | LT0341R-41 NEW | 1 | Orange Red | Red diffused | T1 | .119/3 | 0.20 | 0.89 | 0.10 | 2.1 @ 20 | 15.5 @ 10 | 635 | ✳ | **.17** |
| **152768ER** | LT0324-41 | 1 | Green | Green clear | T1 | .119/3 | 0.20 | 0.89 | 0.10 | 2.1 @ 20 | 45 @ 20 | 567 | ✳ | **.12** |
| **156929ER** | LT0321-41-HE NEW | 1 | Green | Green diffused | T1 | .118/3 | 0.16 | 0.88 | 0.10 | 2.1 @ 20 | 32 @ 20 | 567 | ✳ | **.18** |
| **156937ER** | LT0331-41 NEW | 1 | Yellow | Yellow diffused | T1 | .118/3 | 0.16 | 0.88 | 0.10 | 1.7 @ 20 | 1.8 @ 20 | 655 | ✳ | **.14** |
| **215597ER** | LT2K33-81-UC9T | 1 | Yellow | Water clear | T1 3/4 | .197/5 | 0.31 | 0.89 | 0.10 | 2.2 @ 20 | 5000 @ 20 | 592 | **.59** | **.55** |
| **261622ER** | LT1873-81-UR-P22 NEW | 1 | Red | Water clear | T1 3/4 | .197/5 | 0.34 | 0.89 | 0.10 | 1.9 @ 20 | 1200 @ 20 | 660 | **.21** | **.20** |
| **242843ER** | LT1811-81 NEW | 1 | Red | Red diffused | T1 3/4 | .197/5 | 0.30 | 0.88 | 0.10 | 2.1 @ 20 | 4.1 @ 20 | 700 | ✳ | **.12** |
| **152805ER** | LT1873-81-UR | 1 | Red Ultra Bright | Water clear | T1 3/4 | .197/5 | 0.34 | 0.89 | 0.10 | 1.9 @ 20 | 2000 @ 20 | 660 | **.29** | **.25** |
| **153138ER** | LT2KJ3-UR-S14 NEW | 1 | Orange | Water clear | T1 3/4 | .197/5 | 0.36 | 0.90 | 0.10 | 2.1 @ 20 | 2500 @ 20 | 621 | **.49** | **.44** |
| **152856ER** | LT1841R-81 NEW | 1 | Orange Red | Red diffused | T1 3/4 | .197/5 | 0.34 | 0.89 | 0.10 | 2.1 @ 20 | 23 @ 20 | 635 | ✳ | **.17** |
| **156961ER** | LT1823-81-HE NEW | 1 | Green | Water clear | T1 3/4 | .197/5 | 0.34 | 0.87 | 0.10 | 2.1 @ 20 | 500 @ 20 | 567 | ✳ | **.17** |
| **152821ER** | LT1821-81-HE NEW | 1 | Green | Green diffused | T1 3/4 | .197/5 | 0.34 | 0.89 | 0.10 | 2.1 @ 20 | 96 @ 20 | 567 | ✳ | **.16** |
| **175687ER** | LT0524-81 NEW | 1 | Green | Green transparent | T1 3/4 | .197/5 | 0.24 | 1.07 | 0.07 | 2.1 @ 20 | 44 @ 20 | 567 | ✳ | **.16** |
| **152792ER** | LT1833-81-M1 NEW | 1 | Ylw Super Bright | Water clear | T1 3/4 | .197/5 | 0.34 | 0.89 | 0.10 | 2.1 @ 20 | 1040 @ 20 | 593 | **.26** | **.24** |
| **152830ER** | LT1831-81-UR NEW | 1 | Ylw Ultra Bright | Yellow diffused | T1 3/4 | .197/5 | 0.34 | 0.89 | 0.10 | 2.0 @ 20 | 424 @ 20 | 593 | **.26** | **.24** |
| | | | | **Diffused Backlight** | | | | | | | | | | |
| **151415ER** | LT1F24-A2-S1 NEW | – | Green | Backlight, diffused | 2.05"L x 0.78"H x 0.09"T | | | | 8-pin | 4.2 @ 20 | 140 @ 20 | 567 | **$2.95** | **$2.65** |

## Infrared Emitters

- Use for remote control and/or for fiber optics
- **P/N 133946ER:** Can be used w/ cameras, see pg 97 (peak emission wavelength: 940nm @ If 20mA)



106526ER

| Part No. | Mfr. Cross Ref. No. | Description | Size | Diameter inch/mm | Dimensions (inches) A | B | C | D | Typical Vf @ If | Wavelength nm | Output mWatts | Pricing 1 | Pricing 10 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **112150ER** | LIR2043 NEW | Infrared emitter diode (GaAs) | T1 | 0.125/3 | 0.18 | 0.95 | 0.98 | 0.03 | 1.2V @ 20mA | 940 | 5 | **$.22** | **$.18** |
| **133946ER** | SLI-0308CP | Infrared emitter diode (GaAs) | T1 | 0.12/3 | 0.22 | 0.98 | 1.00 | 0.03 | 1.7V @ 50mA | 940 | 200 | **.62** | **.53** |
| **112176ER** | LPT2023 NEW | Infrared phototransistor | T1 | 0.12/3 | 0.18 | 0.95 | 0.98 | 0.03 | — | 940 | — | **.39** | **.29** |
| **106526ER** | TLN110 | Infrared emitter diode (GaAs) | T1 3/4 | 0.200/5 | 0.34 | 0.78 | 0.84 | 0.04 | 1.2V @ 20mA | 940 | 9 | **.39** | **.29** |

## LED Mounting Hardware

Prepackaged: order in increments of 10 or 100

| Part No. | Mfr. Cross Ref. No. | Description | Color | Mounting Hole Dia. | Panel Thickness | Pricing 10 | Pricing 100 |
|---|---|---|---|---|---|---|---|
| **95513ER** | LMH100 | T1 snap-in | Black | .185" | Up to .070" | **$.08** | **$.07** |
| **23077ER** | LMH200 | T1 3/4 ring & clip | Black | .257" | Up to .125" | **.15** | **.135** |
| **95521ER** | LMH250 | Rect. snap-in | Black | .306" x .202" | Up to .092" | **.20** | **.17** |

95513ER

23077ER

95521ER

*More @ www.Jameco.com*

COLOR CODE LEGEND… NEW SALE REFURBISHED CLOSEOUT

## Single Resistor Value Pricing: 1/4-Watt Carbon Film Resistors (±5%)

To order: Use 5-digit part number adjacent to ohms in chart below
Values may not be combined for quantity price breaks

99¢/bag 100 piece bags

| Pricing (Sold in bags of 100 pieces) | | | | |
|---|---|---|---|---|
| Specify Part No. & Resistor Value | 1 Bag | 10 Bags | 50 Bags | 100 Bags |
| (see Standard Resistor Value Chart below) | $.99/bag | $.57/bag | $.49/bag | $.46/bag |

## Assortment Pricing: 1/4-Watt Carbon Film Resistor (±5%)

Assortments may not be combined for quantity price breaks

| Part No. | Description (Including bulk pack values) | 1 | 10 | 25 |
|---|---|---|---|---|
| 10719ER | 5 ea. of 70 values (every other value from 10 ohm-5.6 MΩ) (350 pcs.) | $9.95 | $8.95 | $7.95 |
| 103165ER | 10 ea. of 24 values marked (●) and 50 ea. of 6 values marked (✖) (540 pcs.) | 12.95 | 11.49 | 9.95 |
| 10663ER | 100 ea. of 27 values marked (▲) (2,700 pcs.) | 24.95 | 22.49 | 20.49 |
| 10655ER | 100 ea. of 160 values (all resistor values in the chart below) (16,000 pcs.) | 119.95 | 107.95 | 96.95 |
| 81832ER | 1/4 watt resistor component cabinet kit – 30 values (540 pcs.) see page 35 | 27.95 | 24.95 | 22.49 |

For more resistor values you can refer to our website @ www.Jameco.com

## Standard Resistor Values Chart

| Part No. | Ohms | Part No. | Ohms | Part No. | Ohms | Part No. | Ohms | Part No. | Ohms | Part No. | Ohms | Part No. | Ohms | Part No. | Ohms |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 29882ER ▲● | 10 | 30162ER ▲● | 150 | 30963ER ● | 390 | 29663ER ▲✖ | 1.0k | 30314ER ▲● | 2.2k | 31237ER ▲● | 5.1k | 30453ER ▲● | 22k | 30525ER | 220k |
| 31106ER ▲● | 47 | 30470ER ▲✖ | 220 | 31165ER ▲● | 470 | 29735ER ● | 1.2k | 30390ER ▲● | 2.7k | 31270ER ▲● | 5.6k | 30841ER ▲● | 33k | 31202ER ▲● | 470k |
| 29946ER ▲✖ | 100 | 30605ER ▲● | 270 | 31376ER | 560 | 29760ER ▲● | 1.5k | 30672ER ▲● | 3.3k | 29911ER ▲✖ | 10k | 31149ER ▲● | 47k | 29698ER ▲● | 1.0M |
| 30082ER | 120 | 30867ER ▲● | 330 | 31499ER ▲● | 680 | 30277ER ▲● | 2.0k | 31026ER ▲✖ | 4.7k | 30146ER ▲● | 15k | 29997ER ▲✖ | 100k | 29938ER ▲● | 10M |

## 1/8-Watt Carbon Film Resistor (±5%) Assortments

• 1/8-W – $12.95/k (bulk) • 1/2-W – $15.95/k (bulk)

| Part No. | Cross Ref. No. | Values included | Description (see chart below) | Pricing 1 | Pricing 10 |
|---|---|---|---|---|---|
| 108302ER | ASST1830 | ✗ | 10 ea. of 24 values marked by ✗ and 50 ea. | | |
| | | # | of 6 values marked below by # (540 pcs.) | $12.95 | $11.49 |
| 108290ER | ASST1827 | ✔ | 100 ea. of 27 values marked by ✓ (2,700 pcs.) | 29.95 | 26.95 |
| 108329ER | CAB182R | – | 1/8-watt resistor component cabinet kit – | | |
| | | – | 30 values (540 pcs.), see page 35 | 24.95 | 22.49 |

### 1/8 & 1/2-Watt Resistor Assortments Value Chart (Ohms)

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 10 ✓✗ | 150 ✓✗ | 330 ✓✗ | 680 ✓✗ | 2.0k ✓✗ | 3.3k ✓✗ | 5.6k ✓✗ | 15k ✓✗ | 33k ✓✗ | 470k ✓✗ |
| 47 ✓✗ | 220 ✓# | 390 ✗ | 1.0k ✓# | 2.2k ✓✗ | 4.7k ✓# | 6.8k ✗ | 22k ✓✗ | 47k ✓✗ | 1.0M ✓✗ |
| 100 ✓# | 270 ✓✗ | 470 ✓✗ | 1.5k ✓✗ | 2.7k ✓✗ | 5.1k ✓✗ | 10k ✓# | 27k ✗ | 100k ✓# | 10M ✓✗ |

(✓), (✗), (#) symbols indicate Resistor values included in Assortments above and below.

## 1/2-Watt Carbon Film Resistor (±5%) Assortments

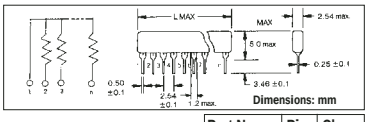
• 1/8-W – $12.95/k (bulk) • 1/2-W – $15.95/k (bulk)

| Part No. | Cross Ref. No. | Values Included | Description (see chart above) | Pricing 1 | Pricing 10 |
|---|---|---|---|---|---|
| 107836ER | ASST1270 | – | 5 ea. of 70 values (every other value from 10Ω - 5.6MΩ)(350 pcs.) (see chart above) | $10.95 | $9.95 |
| 107879ER | CAB12R | – | 1/2-watt resistor component cabinet kit – 30 values (540 pcs.), see page 35 | 29.95 | 26.95 |

## Single-In-Line "SIP" Resistor Networks

*8 and 10-Pin Bussed (125mW/Resistor) ±2%*

**Features (8BRN/10BRN):**
- **8-pin package (7 resistors) = 8BRN**
  **10-pin package (9 resistors) = 10BRN**
- Rated power per resistor at 70°C: 125mW/ resistor
- Op. temp. range: -55°C to +125°C
- Insulation resistance: 10,000MΩ min. at 100V
- Solderability: per MIL-R-83401
- Low profile 5mm (.200" body height)
- Low profile is compatible with DIPs
- Cermet thick film construction



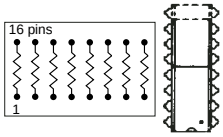

| Pricing per each | | | |
|---|---|---|---|
| 1 | 10 | 100 | 1000 |
| $.25 | $.19 | $.15 | $.12 |
| **Pricing for P/N 97826ER** | | | |
| $.24 | $.18 | $.14 | $.11 |

| Part No. | Pins | Ohms |
|---|---|---|
| 97826ER | 8 | 10k |
| 97851ER | 10 | 330 |
| 97869ER | 10 | 470 |
| 97877ER | 10 | 1.0k |
| 97893ER | 10 | 2.2k |
| 24660ER | 10 | 4.7k |
| 24643ER | 10 | 10k |
| 98087ER | 10 | 47k |
| 98095ER | 10 | 100k |

## Dual-In-Line "DIP" Resistor Networks

*16-Pin Isolated (140mW/Resistor) ±2%*

**Features (16IRN):**
- Maximum operating voltage: 100V
- Insulation resistance: 10,000MΩ min.
- Lead solderability/solvent resistance: meets requirements of MIL-R-83401
- Power rating at 70°C: 2.25 watts
- Compatible with automatic insertion equipment
- Copper leads for excellent heat dissipation • Tolerance: ±2%




| Pricing per each | | | |
|---|---|---|---|
| 1 | 10 | 100 | 1000 |
| $.39 | $.35 | $.31 | $.29 |

| Part No. | Ohms |
|---|---|
| 164005ER | 33 |
| 108556ER | 100 |
| 108564ER | 220 |
| 108572ER | 330 |
| 108581ER | 470 |
| 108599ER | 1.0k |
| 108610ER | 4.7k |
| 108628ER | 10k |
| 108644ER | 100k |

## SMD Resistor Assortment (±5%)✦

*144 Values, 50 pcs. each; 7,200 Pieces Total*

- Surface mount 0805 resistors, 144 values ranging from 1.2Ω to 10MΩ (50 pieces of each value)
- Thickness: 0.5mm
- Size: 2.0mm x 1.25mm
- Max. overload voltage: 200V
- Op. temp.: -50˚C to 120˚C

**Includes:** Case w/ labels

**Resistance Value Chart:**

| | | | | | |
|---|---|---|---|---|---|
| 1.2 | 33 | 430 | 4.3k | 51k | 620k |
| 1.6 | 39 | 470 | 4.7k | 56k | 750k |
| 2.2 | 43 | 510 | 5.6k | 62k | 820k |
| 2.4 | 47 | 560 | 6.2k | 68k | 910k |
| 2.7 | 51 | 620 | 6.8k | 75k | 1.0M |
| 3.0 | 56 | 680 | 7.5k | 82k | 1.6M |
| 3.3 | 62 | 750 | 8.2k | 91k | 1.8M |
| 4.3 | 68 | 820 | 9.1k | 100k | 2.0M |
| 4.7 | 75 | 910 | 10k | 110k | 2.2M |
| 5.1 | 85 | 1.0k | 11k | 120k | 2.4M |
| 5.6 | 91 | 1.1k | 12k | 150k | 2.7M |
| 6.2 | 110 | 1.2k | 13k | 160k | 3.0M |
| 6.8 | 120 | 1.3k | 15k | 180k | 3.3M |
| 7.5 | 130 | 1.5k | 16k | 200k | 3.6M |
| 8.2 | 150 | 1.6k | 18k | 220k | 3.9M |
| 9.1 | 160 | 1.8k | 20k | 240k | 4.3M |
| 10 | 180 | 2.0k | 22k | 270k | 4.7M |
| 16 | 200 | 2.2k | 24k | 300k | 5.1M |
| 18 | 220 | 2.4k | 27k | 360k | 5.6M |
| 20 | 240 | 2.7k | 30k | 390k | 6.8M |
| 22 | 270 | 3.0k | 33k | 430k | 7.5M |
| 24 | 300 | 3.3k | 36k | 470k | 8.2M |
| 27 | 360 | 3.6k | 39k | 510k | 9.1M |
| 30 | 390 | 3.9k | 43k | 560k | 10M |

| Part No. | Mfr. Cross Ref. No. | 1 | 10 | 25 |
|---|---|---|---|---|
| 172806ER | 16-500✦ | $79.95 | $71.95 | $64.79 |

✦ Surface mount

## SMD Plastic Fliptop Case✦

*Store 128 Different Surface Mount Components*

- 8 rows x 16 column grid
- Fliptop openings on each bin
- Padded cover locks bins closed
- Color: gray
- Size: 11.0"L x 8.3"W x1.7" Thick

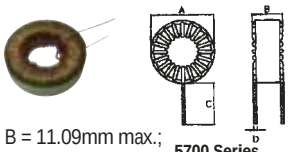
**Includes:** Labels for each bin

✦ Surface mount

| Part No. | Description | 1 | 10 |
|---|---|---|---|
| 164267ER | SMD fliptop case✦ | $49.95 | $44.99 |

## High Current Toroid Inductors

- Low radiation
- Low core loss
- High current capacity
- Size: A = 22.22mm max.; B = 11.09mm max.; C = 15.0±1.0mm; D = 1.2±0.5mm




5700 Series

| Part No. | L (µH) | IDC max. (A) | L min. @ IDC | 1 | 10 |
|---|---|---|---|---|---|
| 208258ER | 10 | 11.0 | 5 | $3.99 | $3.05 |
| 208266ER | 25 | 5.5 | 12 | 3.99 | 3.05 |
| 208291ER | 450 | 1.5 | 250 | 4.32 | 3.28 |

## 2-Watt Linear Taper (±10%)

CLAROSTAT

- 2W @ 70°C ambient
- Temp. range: -55° to +120°C
- Conductive plastic element
- Military No.: RV4N-AYSD__A
- Non-rotational key
- Shaft: dia.: 0.25"; length: 0.875"
- Mounting hole: 0.375"
- Max. panel thickness: 0.25"

SALE 95417ER

**Includes:** Mounting hardware

| Part No. | Product No. | Ohms | 1 | 10 |
|---|---|---|---|---|
| 183610ER | 53C3-500 | 500 | ~~$7.95~~ $7.39 | $6.54 |
| 13936ER | 53C3-1K | 1k | 7.39 | 6.54 |
| 241613ER | 53C3-2K — NEW | 2k | 7.39 | 6.54 |
| 13995ER | 53C3-5K | 5k | 7.39 | 6.54 |
| 13952ER | 53C3-10K | 10k | 7.39 | 6.54 |
| 95417ER | 53C3-50K | 50k | ~~$7.95~~ 7.39 | 6.54 |
| 13979ER | 53C3-100K | 100K | ~~$7.95~~ 7.39 | 6.54 |

*Drop us a line at:*
*AtHome@Jameco.com*
*We're always looking for suggestions and feedback about the products we offer.*

## 5-W Linear Taper Wire Wound (±20%)

- Temperature range: -10˚C to 70˚C
- Shaft dia.: 0.23" (6mm) length: 0.67", except P/N 140521ER (0.25")
- Non-rotational key
- Max. panel thickness: 0.1"
- Mounting hole: 0.32" **Includes:** Mounting hardware

140513ER

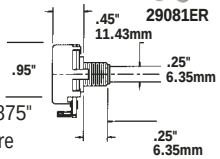
| Part No. | Mfr. Cross Ref. No. | Ohms | 1 | 10 |
|---|---|---|---|---|
| 140513ER | PW5B100 | 100 | $2.79 | $2.35 |
| 140521ER | PW5B500 | 500 | 2.79 | 2.35 |

## 1/2-Watt Linear Taper (±10%)

- Temperature range: -55°C to +125°C
- Non-rotational key
- Non-slotted shaft end
- Mounting hole: 0.3125"
- Shaft diameter: 0.25"
- Shaft length: 0.5625"
- Max. panel thickness: 0.1875"

**Includes:** Mounting hardware

29081ER




| Part No. | Mfr. Cross Ref. No. | Ohms | 1 | 10 |
|---|---|---|---|---|
| 29049ER | P1K | 1k | $.99 | $.79 |
| 29081ER | P10K | 10k | .99 | .79 |
| 29102ER | P100K | 100k | .99 | .79 |

## 1/4-Watt 24mm Linear Taper with Switch (±20%)

- Maximum voltage: 500V
- Switch circuit: SPST
- Switch rating: 125VAC, 1A
- Rotational angle: 300° (±5°)
- Shaft length: 0.335" • Terminal type: solder lugs

263759ER

| Part No. | Product No. | Ohms | 1 | 10 |
|---|---|---|---|---|
| 263759ER | RV24A01-10-15R1-B52 | 500 | $1.62 | $1.36 |
| 263767ER | RV24A01-10-15R1-B13 | 1k | 1.62 | 1.36 |
| 263783ER | RV24A01-10-15R1-B53 | 5k | 1.62 | 1.36 |
| 263791ER | RV24A01-10-15R1-B14 | 10k | 1.62 | 1.36 |
| 263812ER | RV24A01-10-15R1-B54 | 50k | 1.62 | 1.36 |
| 263821ER | RV24A01-10-15R1-B15 | 100k | 1.62 | 1.36 |
| 263855ER | RV24A01-10-15R1-B16 | 1M | 1.62 | 1.36 |

## 1/4-Watt 24mm Audio Taper (±20%)

- Maximum voltage: 250V
- Terminal type: solder lugs
- Insulation resistance: >100MΩ @500VDC
- Rotational angle: 300° (±5°) • Shaft length: 0.335"

255396ER

| Part No. | Product No. | Ohms | 1 | 10 |
|---|---|---|---|---|
| 255396ER | RV24A-10-15R1-A13 | 1k | $1.18 | $.90 |
| 255417ER | RV24A-10-15R1-A53 | 5k | 1.18 | .90 |
| 255425ER | RV24A-10-15R1-A14 | 10k | 1.18 | .90 |
| 255433ER | RV24A-10-15R1-A54 | 50k | 1.18 | .90 |
| 255441ER | RV24A-10-15R1-A15 | 100k | 1.18 | .90 |
| 255468ER | RV24A-10-15R1-A16 | 1M | 1.18 | .90 |

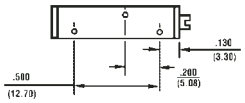
## 1/4-Watt 24mm Audio Taper with Switch (±20%)

- Voltage rating: 250V
- Switch circuit: SPST
- Switch rating: 125VAC, 1A
- Rotational angle: 300° (±5°) • Shaft length: 0.590"

263601ER

| Part No. | Product No. | Ohms | 1 | 10 |
|---|---|---|---|---|
| 263601ER | RV24A01-10-15R1-A13 | 1k | $1.62 | $1.36 |
| 263610ER | RV24A01-10-15R1-A53 | 5k | 1.62 | 1.36 |
| 263636ER | RV24A01-10-15R1-A14 | 10k | 1.62 | 1.36 |
| 263644ER | RV24A01-10-15R1-A54 | 50k | 1.62 | 1.36 |
| 263652ER | RV24A01-10-15R1-A15 | 100k | 1.62 | 1.36 |
| 263679ER | RV24A01-10-15R1-A16 | 1M | 1.62 | 1.36 |

## 3/4-Watt, 3/4" Rectangular 15-Turn Linear Cermet (±10%)



41911ER

- PC pins: .100" grid (2.54mm)
- Sealed to guard against contaminants
- Temp. range:-55°C to +125°C • Side adjusting

| Part No. | Mfr. Cross Ref. No. | Ohms | 1 | 10 |
|---|---|---|---|---|
| 41937ER | 43P500 | 500 | $1.05 | $.99 |
| 41890ER | 43P5K | 5k | 1.05 | .99 |
| 41822ER | 43P10K | 10k | 1.05 | .99 |
| 41911ER | 43P50K | 50k | 1.05 | .99 |
| 41849ER | 43P100K — NEW | 100k | 1.05 | .99 |

## 1/2-Watt, 3/8" Square, Single-Turn Cermet (±10%)

- 1/2 watt linear taper @ 70°C
- PC pins: .100" grid (2.54mm)
- Sealed to guard against contaminants
- Pin Spacing: 0.1"
- Top adjusting
- Temp. range: -55°C to +125°C

42964ER

**Cross Reference Chart**

| Equivalent to: | |
|---|---|
| Allen Bradley | E2B |
| Beckman | 72PR |
| Bourns | 3386P |
| Mepcopal | 8038 |
| Murata | 3104P |
| Spectrol | 63P |
| VRN | 780-12P |
| Weston | 840P |

| Part No. | Mfr. Cross Ref. No. | Ohms | 1 | 10 |
|---|---|---|---|---|
| 43123ER | 63P500 | 500 | $.85 | $.79 |
| 42964ER | 63P1K | 1k | .85 | .76 |
| 43043ER | 63P2K | 2k | .85 | .76 |
| 43078ER | 63P5K | 5k | .85 | .79 |
| 43001ER | 63P10K | 10k | .85 | .79 |
| 43051ER | 63P20K | 20k | .85 | .76 |
| 43107ER | 63P50K | 50k | .85 | .79 |
| 43027ER | 63P100K | 100k | .85 | .79 |
| 43060ER | 63P300K † | 300k | .85 | .76 |
| 63212ER | 63P500K | 500k | .85 | .79 |
| 42981ER | 63P1MEG | 1M | .85 | .79 |
| 105216ER | 63P2MEG † | 2M | .85 | .76 |

† Pin spacing 0.2"

## Multi-Turn (±10%)

- Resistance tolerance: ±10%
- Insulation resistance: (500VDC) 1000MΩ min.

**Series 3299:**

Expanded Selection
Series 3299

- 25-turn; cermet type
- Absolute minimum resistance: 2Ω or 1% max.
- Load life: 200 cycles, 0.5W

**Series 3540:**

Series 3540

- 10-turn; wirewound
- Absolute minimum resistance: 1Ω or 0.1% max.
- Load life: 1000 hours, 2W

| Part No | Product No. | Ohms | 1 | 10 |
|---|---|---|---|---|
| 183556ER | 3299W-1-102 — NEW | 1k | $2.39 | $2.25 |
| 183564ER | 3299W-1-103 | 10k | 2.39 | 2.25 |
| 238633ER | 3299W-1-203 — NEW | 5k | 2.39 | 2.25 |
| 238650ER | 3299W-1-503 — NEW | 50k | 2.39 | 2.25 |
| 183572ER | 3299W-1-104 — NEW | 100k | 2.39 | 2.25 |
| 183548ER | 3540S-1-502 | 5k | 12.79 | 12.35 |
| 183521ER | 3540S-1-103 | 10k | 12.79 | 12.35 |

*More @ www.Jameco.com*

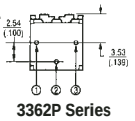
## 1/2-Watt Trimming Potentiometers (±10%)

191644ER

**Cross Reference Chart**

| Equivalent to: 3362P Series | |
|---|---|
| Bourns | 3362P |
| Copal | CT-6P |
| Murata | PVC6 |
| Vishay | 76 |

- Linear taper
- Contact resistance variation: 1% or 3Ω max.
- Insulation resistance: (500VDC) 1,000MΩ min.
- Absolute min. resis.: 1% or 2Ω max.
- Rotational life: 200 cycles
- Terminals: solderable pins
- Top adjustment: 240˚ nominal
- Wiper positioning: 50% nominal



3362P Series

| Part No. | Mfr. Cross Ref. No. | Ohms | 1 | 10 |
|---|---|---|---|---|
| 191644ER | 3362P-200 | 20 | $.69 | $.62 |
| 182828ER | 3362P-502 | 5k | .69 | .62 |
| 182836ER | 3362P-103 — NEW | 10k | .69 | .62 |

## Aluminum Instrumentation Knobs (1/8" and 1/4" Shaft Diameters)

**Includes:** Set screw for secure attachment
**290124:** Coarse surface for sensitive control; 1/8" shaft diameter

162481ER

290124ER

162499ER

| Part No. | Mfr. Cross Ref. No. | Body Color | Pointer Color | Size (H" x Dia.") | 1 | 10 |
|---|---|---|---|---|---|---|
| 162481ER | K5-1/4S | Chrome | Silver | .50 x .56 | $1.19 | $1.09 |
| 290124ER | 42008-1 | Silver | Silver | .50 x .625 | 1.99 | 1.79 |
| 162499ER | K5-1/4B | Black | White | .50 x .56 | 1.55 | 1.39 |
| 138481ER | KN031 | Aluminum | Black | .61 x .65 | 1.49 | 1.35 |
| 138501ER | KN032 | Aluminum | Black | .87 x .75 | 1.95 | 1.71 |

138481ER / 138501ER

## Black Instrumentation Knobs (1/4" Shaft Diameters)

**Includes:** Set screw for secure attachment
**264882ER/264891ER/ 264911ER:** Numeric dial type

264882ER

264891ER

264911ER

102787ER

| Part No. | Product No. | Body Color | Pointer Color | Size (H" x Dia.") | 1 | 10 |
|---|---|---|---|---|---|---|
| 264882ER | RN-112A | Black/Alum | Numeric | .90 x 1.46 | $.99 | $.93 |
| 264891ER | RN-113A | Black/Alum | Numeric | .70 x 1.15 | .99 | .93 |
| 264911ER | RN-114A | Black/Alum | Numeric | .58 x 1.46 | .99 | .93 |
| 102787ER | JK-903C | Black | White | .54 x 1.25 | .64 | .41 |
| 104176ER | JK-902C | Black | White | .49 x .75 | .99 | .85 |
| 202286ER | CP-Z1-M-S | Black/Alum | White | .60 x .80 | .79 | .69 |
| 136240ER | GKB-214 | Black/Alum | White | .52 x .54 | .65 | .55 |
| 138392ER | 41108-1 | Black/Alum | White | .56 x .85 | .79 | .59 |

104176ER

202286ER

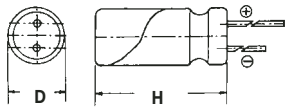
136240ER

138392ER

COLOR CODE LEGEND… NEW SALE REFURBISHED CLOSEOUT

## Aluminum Radial-Lead Electrolytic Capacitors

### General purpose low voltage 85°C (A); HT Type 105°C (B) ±20%




| | | |
|---|---|---|
| Operating temperature range | | -40°C to +85°C (A); -40°C to +105°C (B) |
| Leakage Current (20°C) | After 1 min. | 0.03CV or 4μA, whichever is greater |
| | After 2 min. | 0.01CV or 3μA, whichever is greater |

✳ Prepackaged: order in increments of 10

| Part No. | Mfr. Cross Reference No. † | Op. Temp | Value (μF) | Voltage (V) | Size (mm)* D x H | Pricing 1 | Pricing 10 |
|---|---|---|---|---|---|---|---|
| 94160ER | 5R1/50 | A | 1 | 50 | 4 x 5 | ✳ | $.12 |
| 29831ER | R1/50 | A | 1 | 50 | 5 x 11 | ✳ | .057 |
| 93729ER | R2.2/50 | A | 2.2 | 50 | 5 x 11 | ✳ | .038 |
| 135183ER | R3.3/50 | A | 3.3 | 50 | 5 x 11 | ✳ | .05 |
| 31000ER | R4.7/50 | A | 4.7 | 50 | 5 x 11 | ✳ | .038 |
| 94211ER | 5R10/25 | A | 10 | 25 | 4 x 5 | ✳ | .13 |
| 94220ER | 5R10/35 | A | 10 | 35 | 5 x 5 | ✳ | .09 |
| 29891ER | R10/50 | A | 10 | 50 | 5 x 10 | ✳ | .06 |
| 198942ER | R22J/35 | A | 22 | 35 | 5 x 11 | ✳ | .029 |
| 198926ER | R33J/25 | A | 33 | 25 | 5 x 11 | ✳ | .045 |
| 93745ER | R33/50 | A | 33 | 50 | 6 x 11 | ✳ | .055 |
| 198951ER | R47J/35 | A | 47 | 35 | 5 x 10 | ✳ | .05 |
| 94289ER | 5R100/16 | A | 100 | 16 | 6 x 5 | ✳ | .15 |
| 198969ER | R100J/35 | A | 100 | 35 | 6.3 x 11 | ✳ | .07 |
| 93778ER | R220/50 | A | 220 | 50 | 10 x 12 | ✳ | .15 |
| 93796ER | R330/25 | A | 330 | 25 | 10 x 12 | ✳ | .13 |
| 158203ER | R470B16 | B | 470 | 16 | 8 x 11 | ✳ | .12 |
| 31181ER | R470/25 | A | 470 | 25 | 10 x 16 | ✳ | .12 |
| 30015ER | R1000/16 | A | 1000 | 16 | 13 x 21 | ✳ | .16 |
| 93833ER | R1000/25 | A | 1000 | 25 | 12 x 20 | ✳ | .25 |
| 158297ER | R1000B25 | B | 1000 | 25 | 10 x 17 | .35 | .29 |
| 158377ER | R1000B35 | B | 1000 | 35 | 13 x 21 | .49 | .45 |
| 93841ER | R1000/50 | A | 1000 | 50 | 16 x 26 | .52 | .46 |
| 199110ER | R1000J/100 | A | 1000 | 100 | 18 x 40 | 2.99 | 2.69 |
| 30533ER | R2200/25 | A | 2200 | 25 | 16 x 36 | .55 | .49 |
| 198985ER | R2200J/35 | A | 2200 | 35 | 16 x 25 | 1.39 | 1.25 |
| 158431ER | R2200B50 | B | 2200 | 50 | 16 x 31 | .99 | .89 |
| 93850ER | R4700/25 | A | 4700 | 25 | 18 x 35 | .99 | .85 |
| 199005ER | R4700J/35 | A | 4700 | 35 | 18 x 35.5 | 1.35 | 1.25 |
| 163301ER | R4700/50 | A | 4700 | 50 | 22 x 42 | 1.99 | 1.79 |
| 31510ER | R6800/16 | A | 6800 | 16 | 18 x 36 | .99 | .78 |

†**RADIAL CAPACITOR CROSS REFERENCES** *Capacitor dimensions and lead spacing may vary
**Elna:** RC2/RE2; **IC:** RAR/RSS; **Marcon:** SEM/SSM; **Nichicon:** LB/VX/USA/SR/SA; **Rubycon:** MS7/TWSS; **Sprague:** 501D/513D; **UCC:** SME/SRE/SRA/SRG; **Panasonic:** KA/KS/SU

*More @ www.Jameco.com — Log on today!*

## Snap Mount Large Can Aluminum Electrolytic Capacitors (±20%)

Snap-Ins!

- Designed as input filter for switched mode power supply; standard 10mm (.400") snap-in spacing
- Operating temperature range: -40°C to +85°C max. leakage current: 0.02CV (uA) or 3mA whichever is smaller
- Can-top safety vent

Expanded Selection

115422ER

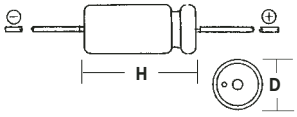
† **CROSS REFERENCES:**
**Aero M**: LP/LPR; **Elna**: LP3/LP4; **Illinois Capacitor**: LBA/LPR; **Mallory**: LPX; **Marcon**: CEAWF; **Nichicon**: LLK/LLQ; **Panasonic**: TS-UP/TS-U; **Phillips** (MEPCO): 3487/3489; **Rubycon**: RSP; **Sprague**: 80D/82D; **United Chemicon**: SMG(VN)/SMH(VN)

| Part No. | Mfr. Cross Ref. No.† | Capacitance | Voltage | Size (mm)* D x H | 1 | 10 |
|---|---|---|---|---|---|---|
| 115422ER | SN4700/50 | 4,700μF | 50V | 30 x 41 | $3.19 | $2.69 |
| 115431ER | SN6800/50 | 6,800μF | 50V | 30 x 51 | 3.15 | 2.68 |
| 157737ER | SN10000/50 | 10,000μF | 50V | 35 x 40 | 4.95 | 4.10 |

*Capacitor dimensions and lead spacing may vary

## Aluminum Axial-Lead Electrolytic Capacitors

### General purpose low voltage 85°C




| | |
|---|---|
| Operating temperature range | -40°C to +85°C |
| Leakage Current (After 2 minutes 20°C) | 0.02CV or 2μA, whichever is greater |

✳ Prepackaged: order in increments of 10

| Part No. | Mfr. Cross Ref. No. † | Value (μF) | Voltage (V) | Size (mm)* DxH | Pricing 1 | Pricing 10 |
|---|---|---|---|---|---|---|
| 10866ER | A1/50 | 1 | 50 | 5 x 13 | ✳ | $.15 |
| 93569ER | A2.2/50 | 2.2 | 50 | 6 x 13 | ✳ | .11 |
| 10882ER | A10/50 | 10 | 50 | 6 x 12 | ✳ | .15 |
| 199267ER | A22J/25 | 22 | 25 | 6 x 12 | ✳ | .20 |
| 199355ER | A47J/35 | 47 | 35 | 6.3 x 16 | ✳ | .20 |
| 93551ER | A100/35 | 100 | 35 | 8 x 16 | ✳ | .21 |
| 93631ER | A1000/16 | 1000 | 16 | 13 x 27 | .46 | .41 |
| 10954ER | A1000/25 | 1000 | 25 | 13 x 31 | .59 | .49 |
| 93649ER | A1000/35 | 1000 | 35 | 13 x 26 | .85 | .75 |
| 11033ER | A2200/16 | 2200 | 16 | 16 x 40 | .79 | .71 |
| 199478ER | A2200J/50 | 2200 | 50 | 18 x 42 | 2.29 | 1.93 |
| 93681ER | A10000/16 | 10000 | 16 | 22 x 51 | 2.25 | 2.05 |

* Capacitor dimensions may vary
† **AXIAL CAPACITOR CROSS REFERENCES:** **Elna:** RE2; **IC:** RAR; **Marcon:** SEM; **Nichicon:** LB/VX; **Rubycon:** TWSS; **Sprague:** 501D/513D; **UCC:** SME; **Panasonic:** SU

## Ceramic Disc Capacitors (±20%)

### 25 and 50 Volt, Z5U Temperature Coefficient

| | |
|---|---|
| Operating temperature range | +10°C to +85°C |
| Cap. change over temp. range | +22% to -56% |
| Dielectric withstanding voltage | 2.5 times rated volt. for not < 1 sec. |

- **Prepackaged: order in increments of 10 or 100**

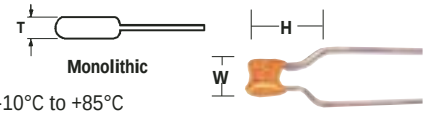
| Part No. | Mfr. Cross Ref. No. | Capacitance | Voltage (V) | Dia. (mm)* | 10 | 100 |
|---|---|---|---|---|---|---|
| 15333ER | DC10 | 10pF | 50 | 5 | $.07 | $.05 |
| 15405ER | DC22 | 22pF | 50 | 6 | .07 | .05 |
| 15190ER | DC.001 | .001μF | 50 | 6 | .06 | .05 |
| 97341ER | DC.0022/1K20 | .0022μF | 1000 | 11 | .22 | .18 |
| 15229ER | DC.01 | .01μF | 50 | 6 | .06 | .04 |
| 97375ER | DC.11/1K20 | .01μF | 1000 | 12 | .18 | .12 |
| 15253ER | DC.047 | .047μF | 50 | 8 | .084 | .069 |
| 151116ER | DC.1/25 | .1μF | 25 | 6 | .14 | .13 |
| 15270ER | DC.1 | .1μF | 50 | 8 | .15 | .13 |

*Capacitor dimensions and lead spacing may vary

## Monolithic Ceramic Capacitors (±20%) (Z5U Series)

**Applications:**
- Data processing
- Communications engineering

**Operating temperature range:** -10°C to +85°C




✳ Prepackaged: order in increments of 10

| Part No. | Mfr. Cross Ref. No. | Capacitance | Voltage (V) | Size (mm)* W x T x H | Pricing 1 | Pricing 10 |
|---|---|---|---|---|---|---|
| 81541ER | MD10 | 10pF | 50 | 3.5 x 2.0 x 3.0 | ✳ | $.10 |
| 81533ER | MD22 | 22pF | 50 | 4.0 x 2.0 x 4.0 | ✳ | .095 |
| 81525ER | MD100 | 100pF | 50 | 3.5 x 2.0 x 3.0 | ✳ | .09 |
| 25507ER | MD.01 | .01μF | 50 | 3.5 x 2.0 x 3.0 | ✳ | .09 |
| 57621ER | MD.047 | .047μF | 50 | 2.5 x 2.5 x 3.0 | ✳ | .08 |
| 25523ER | MD.1 | .1μF | 50 | 6.0 x 2.0 x 4.0 | ✳ | .07 |
| 25558ER | MD.47 | .47μF | 50 | 4.5 x 2.5 x 4.5 | ✳ | .25 |
| 81509ER | MD1 | 1μF | 50 | 6.0 x 3.0 x 7.0 | .48 | .43 |
| 25540ER | MD.22 | .22μF | 50 | 6.0 x 2.0 x 4.5 | ✳ | .17 |

*Capacitor dimensions and lead spacing may vary

## Dipped Tantalum Capacitors (±10%)

SALE

***Resin Dipped Solid Tantalum Capacitors***

- Flame retardant coating
- Exceptional temperature stability
- Low leakage current
- Designed for entertainment and commercial equipment
- Moisture-resistant
- Operating temp range: -55°C to +85°C (+125°C with derating)
- Rated voltage DC: ≤ + 85°C

✳ **Prepackaged: order in increments of 10**

| Part No. | Mfr. Cross Ref. No. † | Capacitance | Voltage (V) | Size (mm) D x H* | 1 | 10 |
|---|---|---|---|---|---|---|
| 33486ER | TM.1 | .1µF | 35 | 4.5 x 7.0 | $.23 | $.225 |
| 33507ER | TM.22 | .22µF | 35 | 4.5 x 7.0 | ✳ | .225 |
| 33523ER | TM.33 | .33µF | 35 | 4.5 x 7.0 | ✳ | .225 |
| 33531ER | TM.47 NEW | .47µF | 35 | 4.5 x 7.0 | ✳ | .18 |
| 154860ER | TM1/25 | 1µF | 25 | 3.0 x 6.0 | .29 | .261 |
| 33662ER | TM1 | 1µF | 35 | 4.5 x 7.0 | .29 | .261 |
| 94001ER | TM2.2/16 | 2.2µF | 16 | 4.5 x 7.0 | ✳ | .171 |
| 33734ER | TM2.2 | 2.2µF | 35 | 4.5 x 7.5 | .35 | .315 |
| 94035ER | TM4.7/16 | 4.7µF | 16 | 4.5 x 7.5 | .42 | .342 |
| 94043ER | TM4.7/25 | 4.7µF | 25 | 5.0 x 8.5 | .44 | .396 |
| 33806ER | TM4.7 | 4.7µF | 35 | 5.5 x 9.0 | .41 | .378 |
| 94060ER | TM10/16 | 10µF | 16 | 5.0 x 9.0 | .41 | .351 |
| 94078ER | TM10/25 | 10µF | 25 | 5.5 x 9.0 | .53 | .45 |
| 33689ER | TM10 | 10µF | 35 | 6.0 x 10.0 | .80 | .71 |
| 94094ER | TM22/16 | 22µF | 16 | 6.0 x 10.0 | .62 | .53 |
| 94107ER | TM22/25 | 22µF | 25 | 7.0 x 10.5 | 1.59 | 1.45 |
| 33785ER | TM33 | 33µF | 25 | 8.0 x 13.0 | 2.09 | 1.89 |
| 94123ER | TM47/16 | 47µF | 16 | 8.0 x 13.0 | 1.55 | 1.39 |
| 33822ER | TM47 | 47µF | 25 | 9.0 x 14.5 | 3.05 | 2.75 |
| 33700ER | TM100 | 100µF | 6.3 | 7.0 x 10.5 | 1.09 | .99 |

†**Dipped Tantalum Capacitor Cross References: Panasonic:** EF Series; **AVX:** Tap Series; **Sprague:** 196D and 199D; **Kemet:** T350/ T360; **Mepco:** 49GS; **NEC:** DN; **Nichicon:** 599; **NIC:** NDTM; **Hitachi:** TSD-3; **Matsuo:** 202 *Capacitor dimensions and lead spacing may vary

## Memory Back-Up Capacitors

**Applications:**

- Back-up on CMOS microcomputers, static RAM, DTSs (digital tuning systems)
- Memory back-up of remote controllers

142922ER 227811ER

**Features:**

- Excellent voltage holding characteristics for low back-up currents
- Small size vs. capacitance • Voltage: 5.5VDC
- Capacitance ranges from .047 to 1F

*Capacitor dimensions and lead spacing may vary*

| Part No. | Mfr. Cross Ref. No. | Capacitance (Farad) | Pricing 1 | Pricing 10 |
|---|---|---|---|---|
| 142922ER | MBC.047/5.5 NEW | .047 | $1.50 | $1.34 |
| 142949ER | MBC.22/5.5 NEW | .22 | 2.09 | 1.79 |
| 143010ER | MBC.47/5.5 NEW | .47 | 3.49 | 3.15 |
| 142957ER | MBC1.0/5.5 NEW | 1.0 | 4.29 | 3.85 |
| 227811ER | S5R5V105 NEW | 1.0 | 4.49 | 3.82 |

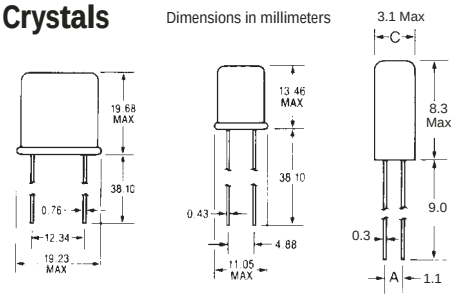
## 14-Pin Crystal Oscillator Socket

- Can be PCB mounted without the modifications that would be needed with DIP-IC sockets
- Low profile solder tail; machine tooled on 4 pins

| Part No. | Description | 1 | 10 |
|---|---|---|---|
| 133006ER | Oscillator socket | $.55 | $.46 |

## Crystals

Dimensions in millimeters




HC33/U Case HC49/U (HC18/U) Case TF Case

- Frequency calibration tolerance: ± 50ppm @ 25°C
- Operating temperature: -10°C to +60°C
- Drive level: 4.0 mW maximum
- Freq. stability tolerance: ±50 ppm from -10°C to +60°C
- Shunt capacitance: 7pF maximum

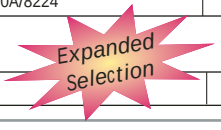
### HC33/U Case

| Part No. | Mfr. Cross Ref. No. | Frequency (MHz) | Impedance | Microprocessor | Pricing 1 | Pricing 10 |
|---|---|---|---|---|---|---|
| 14349ER | CY1 NEW | 1.0 | 13pF | MC6800/6808/6809E/6500 series | $4.95 | $4.49 |

### HC49/U (HC18/U) Case

| | | | | | | |
|---|---|---|---|---|---|---|
| 101274ER | CY2.457 | 2.4576 | 32pF | CDP1702/1802C/1804/1804C | $.99 | $.89 |
| 14533ER | CY3.57 NEW | 3.579545 | 18pF | MC6801,2,3/MM5369 | .59 | .54 |
| 14568ER | CY3.68 NEW | 3.6864 | 18pF | 8748/8035-8 | .89 | .79 |
| 14592ER | CY4 | 4.0 | 20pF | MCS-40/MC6802,8,9/CDP1802 | .59 | .54 |
| 14381ER | CY10 NEW | 10.0 | Series | MCS-85/8085A-2 | .79 | .69 |
| 120061ER | CY11.05 | 11.0592 | Series | General purpose | .89 | .79 |
| 14517ER | CY20 | 20.0 | Series | MCS-80/8080A/8224 | .79 | .69 |

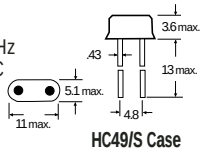
### TF Case




| | | | | | | |
|---|---|---|---|---|---|---|
| 14584ER | CY32.76 NEW | 32.768kHz | 10.5pF | Tuning fork | $.89 | $.79 |

## Low Profile Crystals

- Frequency range: 3.5 to 70.0MHz
- Operating temp.: -10°C to +60°C
- Drive level: 0.5mW (fundamental frequency)
- Aging: ±5ppm/year maximum
- Frequency stability tolerance: ±50ppm




HC49/S Case

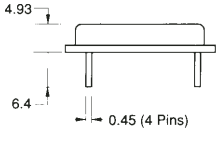
### HC49/S Case (Low Profile)

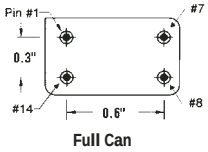
| Part Number | Mfr. Cross Reference No. | Frequency (MHz) | Imped. | Max. Resist. | Microprocessor | Pricing 1 | Pricing 10 |
|---|---|---|---|---|---|---|---|
| 137832ER | CY4LP | 4.000 | 17pF | 120Ω | MCS-40/MC6802, 8, 9/CDP1802 | $.99 | $.89 |
| 137859ER | CY8LP | 8.000 | Series | 60Ω | IM6100A/MC68B09 | .75 | .67 |

## TTL Crystal Oscillators

- OSC series oscillators fit into a 14-pin DIP socket PN 133006ER, above
- Input voltage: +5VDC ±0.5VDC
- Operating temperature: 0°C to 70°C
- Frequency stability ±100ppm

27967ER




Full Can

**Full Can**

| Pin # | Function | Pin # | Function |
|---|---|---|---|
| 1 | N/C | 8 | Output |
| 7 | GND | 14 | +5VDC |

| Part Number | Mfr. Cross Reference No. | Frequency (MHz) | Max Input Current | Rise Fall Time | Input Current | Pricing 1 | Pricing 10 |
|---|---|---|---|---|---|---|---|
| 27861ER | OSC1 | 1.0 | 7mA | 15ns | 45mA | $2.75 | $2.45 |
| 27967ER | OSC4 | 4.0 | 7mA | 10ns | 50mA | 1.99 | 1.79 |
| 27991ER | OSC8 | 8.0 | 15mA | 15ns | 30mA | 1.99 | 1.79 |
| 27887ER | OSC10 | 10.0 | 15mA | 10ns | 20mA | 1.99 | 1.79 |
| 27895ER | OSC12 | 12.0 | 15mA | 10ns | 50mA | 1.99 | 1.79 |
| 27932ER | OSC20 | 20.0 | 17mA | 10ns | 20mA | 1.79 | 1.59 |
| 76831ER | OSC50 NEW | 50.0 | 25mA | 6ns | 25mA | 1.99 | 1.79 |
| 76857ER | OSC100 | 100.0 | 25mA | 3ns | 90mA | 2.49 | 2.25 |

COLOR CODE LEGEND... NEW SALE REFURBISHED CLOSEOUT

## Excell Rotary DIP Switches

- Gold plated contacts to ensure reliable, low resistance connection
- Fully sealed construction
- Terminals: PC pin leads
- Life: 10,000 cycles min.
- Material: 94V-0 grade, UL approved fire retardant plastic
- Ma. switching load rating: 25mA @ 24VDC
- Op force: 500gf-cm max.

139635ER

139651ER

| Part No. | Product No. | Position | Adjust | Code Type | W" x D" x H" | 1 | 10 |
|---|---|---|---|---|---|---|---|
| 139635ER | ERD110RS(DRD10) | 10 | top | BCD | 0.39 x 0.39 x 0.20 | $2.59 | $2.33 |
| 139651ER | ERD116RS | 16 | top | Hex | 0.39 x 0.20 x 0.39 | 2.75 | 2.49 |

## Magnetic Reed Switches

- NO (normally open) • Contact form: SPST

**171871ER:** • Rating: 500mA @ 100VDC **164081ER:** • Rating: 1A @ 250VAC; 1A @ 50VDC

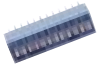
164081ER

| Part No. | Product No. | Size (length includes leads) | 1 | 10 |
|---|---|---|---|---|
| 171871ER | MKA141011015 | 1.73"L x 0.1"Dia. | $.79 | $.64 |
| 164081ER | MRS1 | 2.35"L x 0.2"Dia. | .79 | .63 |

## DIP Switches

38818ER

38842ER


38797ER

- Switch contacts: SPST • Switches are numbered
- 50VDC @ 100mA • Molded construction
- Standard switches have raised lever
- LP switches are flush to casing • Pre-tinned leads

***Compatible Socket Chart, see website for Sockets***

| Switch | Socket | Switch | Socket | Switch | Socket |
|---|---|---|---|---|---|
| 38818ER | 51570ER | 38826ER | 37161ER | 139002ER | 51570ER |
| 139011ER | 37372ER | 38842ER | 37372ER | 38797ER | 38607ER |

| Part No. | Mfr. Cross Ref. No.* | Pos. | 1 | 10 |
|---|---|---|---|---|
| 38818ER | 206-4 | 4 | $.65 | $.55 |
| 139002ER | 206-4LP | 4 | .79 | .70 |
| 38826ER | 206-6 | 6 | .99 | .89 |
| 38842ER | 206-8 | 8 | .89 | .80 |
| 139011ER | 206-8LP | 8 | .85 | .76 |
| 38797ER | 206-10 | 10 | .95 | .86 |

* Manufacturer Cross Reference number and manufacturer may vary

## Rotary Switches

- Panel mount
- Make before break
- Solder lugs
- Layers: 1
- Contact rating: 30VDC @ 0.3A
- Insulation resistance: 10MΩ min.
- Contact resistance: 30mΩ
- Material: solid brass bushings, slotted aluminum shafts, plated frame, phenolic contact wafer (except for P/N 101565ER – plastic casing)
- Mounting hole diameter: 3/8"
- Lug size: 0.07" • Shaft size: 0.46" x 0.25"

**101565ER :** Shaft size: 1.16" x 0.25"

See page 19 for knobs

101573ER

**Includes:** Washer and nut

| Part Number | Mfr. Cross Ref. No.* | Poles | Position | Pricing 1 | Pricing 10 |
|---|---|---|---|---|---|
| 101531ER | RS0261 | 1 | 12 | $1.29 | $1.10 |
| 101573ER | RS022 | 2 | 6 | 1.35 | 1.15 |
| 101565ER | RS023 | 3 | 4 | 1.95 | 1.59 |
| 101557ER | RS024 | 4 | 3 | 1.09 | .93 |

* Manufacturer Cross Reference number and manufacturer may vary

## SPST Round Keylock Switches

- Used in computer & other security systems
- Key removable from 2 positions • Two keys
- Mounting hole = 0.75" except P/N 106649ER = 0.5"

**196648ER:** all keys are alike **Includes:** Mounting nut

106649ER

105831ER/196648ER

| Part No. | Mfr. Cross Ref. No. | No. Flat, Dia. | Length | Terminal | Voltage/Current | Pricing 1 | Pricing 10 |
|---|---|---|---|---|---|---|---|
| 106649ER | KS4B | 2, .21" | .55" | Barrel | 125VAC/3A | $3.59 | $3.29 |
| 105831ER | KS3B | 2, .66" | 1.48" | .25" quick connect | 125VAC/6A | 3.99 | 3.59 |
| 196648ER | 3313E-M | 2, .66" | 1.48" | .25" quick connect | 125VAC/6A | 4.49 | 3.99 |

## 12-Button Telephone Keypads

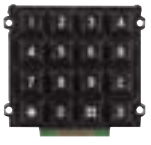
- White plastic
- 8-pin .100" header
- Tactile type keypad
- Contact rating: 12VDC @ 20mA
- Contact resistance: 200Ω max.
- Life test: 1,000,000 cycles per key
- Size: 2.8"L x 2.2"W x 0.6"H

153488ER

| Part No. | Description | 1 | 10 |
|---|---|---|---|
| 190561ER | Numeric keypad | $8.75 | $7.45 |
| 153488ER | Alpha numeric keypad | 9.49 | 8.55 |

## 16-Button Numeric Keypad

- 4 x 4 matrix keypad
- 8-position solder pad
- Contact rating: 24VDC @ 20mA
- Contact resistance: 200Ω max.
- Life test: 1,000,000 life cycles per key
- Size: 3.0"L x 2.8"W x 0.6"H



| Part No. | Description | 1 | 10 |
|---|---|---|---|
| 169244ER | Numeric keypad | $7.95 | $6.95 |

## 16-Button Indoor/Outdoor Keypads

- 9-pin 0.100" headers
- Fully sealed snap-dome contact
- For indoor or outdoor use
- Contact rating: 24VDC @ 10mA resistive
- Life test: 3,000,000 cycles per key
- Compatible with MOS, TTL and DTL (10Ω max.)
- Recommended connector: P/N 103190ER header and 100765ER pin
- Size (housing): 4.7"W x 1.7"H x 0.4"T

196171ER

152063ER

✳ **Prepackaged: please order in increments of 10**

| Part No. | Description | 1 | 10 |
|---|---|---|---|
| 196171ER | 2x8 matrix keypad | $16.95 | $15.29 |
| 152063ER | 4x4 matrix keypad | 14.95 | 13.49 |
| 103190ER | Header housing (10-pin) | .42 | .39 |
| 100765ER | Header pin (10 per pack) ✳ | | .11 |

## 16-Button Switch

- 1/2" button centers
- Flange mounted
- Top surface or sub surface mounting
- Snap-dome contact provides positive feedback • 4 x 4 grid
- Rating @ 24VDC: 10mA resistive
- Contact resistance: 10Ω maximum (compatible with MOS, TTL, and DTL)
- Voltage breakdown: 250VAC between mutually insulated parts
- Life expectancy: 3,000,000 operations per button

NEW

| Part No. | Product No. | 1 | 10 |
|---|---|---|---|
| 302025ER | 86BB2-006 | $18.55 | $16.79 |

## Click Action Basic Precision Switches

- 3 terminals: common; normal closed; normal open
- Dielectric strength: 1000VAC 50-60Hz for 1 min.
- Insulation resistance: 100MΩ min. (@ 500VDC)
- Type: NO-NC-common

159599ER

159572ER

159581ER

| Part Number | Product Number | Description | Rating | Contact Resistance (initial) | Service Life Mechanically | Service Life Electrically | Terminals Type | Agency Approval | Pricing 1 | Pricing 10 |
|---|---|---|---|---|---|---|---|---|---|---|
| 159599ER | SS0505A | Subminiature | 5A @ 125VAC | 30mΩ max. | 10 million | 200,000 | .127" quick disconnect | UL | $3.25 | $2.92 |
| 159572ER | VS10N051C | Micro (T90S1D12-12) | 10A @ 250VAC | 15mΩ max. | 10 million | 100,000 | .183" quick disconnect | UL/CSA | 2.89 | 2.54 |
| 159581ER | VS10N021C2 | Micro | 10A @ 250VAC | 15mΩ max. | 10 million | 100,000 | .183" quick disconnect | UL/CSA | 2.45 | 2.25 |

## Miniature Toggle Switches

- Mounting hole diameter: 1/4"

**Includes:** Mounting hardware

Fig. 1

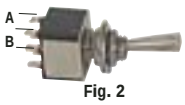


Fig. 2

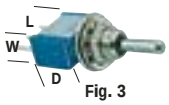


Fig. 3

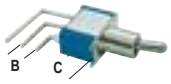


Fig. 4

Fig. 5

| Part No. | Mfr. Cross Ref. No. | Fig. | Pins | Type ( ) Momentary | Size (L" x W" x D") | Lead Spacing (A"/B"/C") | | | Contact Rating (A @ VAC) | Lead Type | Lever Type | 1 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 76523ER | JMT113 | 1 | 2 | SPST on-off | .52 x .32 x .38 | — | .185 | — | 6 @ 125 & 3 @ 250 | Solder lugs | Round | $1.15 | $1.03 |
| 21936ER | JMT123 | 3 | 3 | SPDT on-on | .52 x .32 x .38 | — | .185 | — | 5 @ 125 & 2 @ 250 | Solder lugs | Round | 1.15 | 1.03 |
| 21910ER | JMT121 | 3 | 3 | SPDT on-off-on | .52 x .32 x .38 | — | .185 | — | 5 @ 125 & 2 @ 250 | Solder lugs | Round | 1.35 | 1.25 |
| 22832ER | LFH123 | 3 | 3 | SPDT on-on | .52 x .28 x .36 | — | .185 | — | 5 @ 125 & 2 @ 250 | Solder lugs | Flat | 1.15 | 1.05 |
| 75854ER | SWM132 | 3 | 3 | SPDT on-on | .52 x .32 x .38 | — | .185 | — | 6 @ 125 & 3 @ 250 | Solder lugs | Round | 1.29 | 1.16 |
| 75889ER | SWM129 | 3 | 3 | SPDT (on)-off-(on) | .52 x .32 x .38 | — | .185 | — | 6 @ 125 & 3 @ 250 | Solder lugs | Round | 1.99 | 1.85 |
| 26331ER | MPC123 | 3 | 3 | SPDT on-on | .52 x .32 x .37 | — | .185 | — | 6 @ 125 & 3 @ 250 | PC | Round | 1.39 | 1.25 |
| 26315ER | MPC121 | 3 | 3 | SPDT on-off-on | .52 x .32 x .37 | — | .185 | — | 5 @ 125 & 2 @ 250 | PC | Round | 1.29 | 1.19 |
| 71597ER | SWM148 | 4 | 3 | SPDT on-on | .52 x .32 x .38 | — | .185 | .20 | 5 @ 125 & 2 @ 250 | PC right angle | Round | 1.19 | 1.09 |
| 75871ER | SWM145 | 5 | 3 | SPDT on-on | .52 x .32 x .38 | — | .185 | .20 | 6 @ 125 & 3 @ 250 | PC right angle | Round | 1.49 | 1.35 |
| 22841ER | LFH221 | 2 | 6 | DPDT on-off-on | .52 x .52 x .38 | .20 | .185 | — | 3 @ 125 & 1 @ 250 | Solder lugs | Flat | 1.45 | 1.35 |
| 21979ER | JMT223 | 2 | 6 | DPDT on-on | .52 x .52 x .38 | .20 | .185 | — | 5 @ 125 & 2 @ 250 | Solder lugs | Round | 1.49 | 1.29 |
| 22859ER | LFH223 | 2 | 6 | DPDT on-on | .52 x .52 x .38 | .20 | .185 | — | 5 @ 125 & 2 @ 250 | Solder lugs | Flat | 1.29 | 1.19 |
| 75900ER | SWM133 | 2 | 6 | DPDT on-on | .52 x .52 x .38 | .20 | .185 | — | 6 @ 125 & 3 @ 250 | Solder lugs | Round | 1.49 | 1.35 |
| 21952ER | JMT221 | 2 | 6 | DPDT on-off-on | .52 x .52 x .38 | .20 | .185 | — | 6 @ 125 & 3 @ 250 | Solder lugs | Round | 1.29 | 1.16 |
| 75951ER | SWM130 | 2 | 6 | DPDT (on)-off-(on) | .52 x .52 x .38 | .20 | .185 | — | 6 @ 125 & 3 @ 250 | Solder lugs | Round | 1.49 | 1.35 |
| 26358ER | MPC221 | 2 | 6 | DPDT on-off-on | .52 x .52 x .38 | .20 | .185 | — | 5 @ 125 & 2 @ 250 | PC | Round | 1.29 | 1.16 |

## Subminiature Toggle Switches

- Mounting hole diameter: 7/32"
- Pre-tinned leads
- Metal construction

**Includes:** Mounting hardware

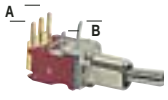


Fig. 1

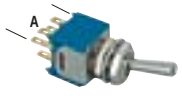


Fig. 2

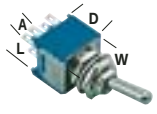


Fig. 3

| Part No. | Mfr. Cross Ref. No. | Fig. | Pins | Type | Size (L" x W" x D") | Lead Spacing (A"/B") | | Contact Rating | Lead Type | Lever Type | 1 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 106067ER | SWP124 | 1 | 3 | SPDT on-on | .25 x .33 x .40 | .20 | .10 | 30mA @ 5VDC | PC right angle | Round | $1.99 | $1.83 |
| 72160ER | SW1501 | 2 | 2 | SPST on-off | .33 x .21 x .33 | .10 | — | 1.5A @ 250VAC | Solder lugs | Round | 1.29 | 1.24 |
| 75969ER | SWM136 | 2 | 3 | SPDT on-on | .33 x .21 x .33 | .10 | — | 3.0A @ 125VAC | Solder lugs | Round | 1.55 | 1.44 |
| 72557ER | SW1502 | 2 | 3 | SPDT on-off-on | .33 x .21 x .33 | .10 | — | 1.5A @ 250VAC | Solder lugs | Round | 1.35 | 1.25 |
| 138907ER | SW1503 | 2 | 6 | DPDT on-off-on | .36 x .37 x .33 | .10 | — | 3.0A @ 120VAC | Solder lugs | Round | 1.29 | 1.05 |
| 75977ER | SWM137 | 3 | 6 | DPDT on-on | .33 x .37 x .33 | .17 | .10 | 1.5A @ 250VAC | Solder lugs | Round | 1.29 | 1.05 |

## Pushbutton Switches

- Pins: 2
- Normally open & closed configurations
- Momentary action pushbutton switches

**Includes:** Mounting hardware

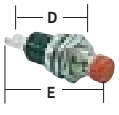


Fig.1

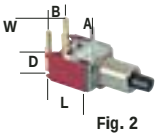


Fig. 2

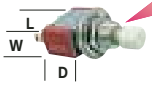


Fig. 3

Expanded Selection

Fig. 4 Fig. 5

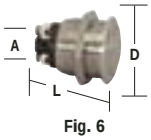


Fig. 6

Fig. 7

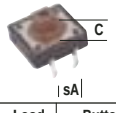
Fig. 8

| Part No. | Mfr. Cross Ref. No. | Fig. | Mount Hole Dia. | Type ( ) Momentary | Size (L" x W" x D") | Lead Spacing (A"/B") | | Contact Rating | Terminal Type | Button Color | 1 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 26622ER | MS102 | 1 | 1/4" | SPST off-(on) | .65 (D) x 1.10 (E) | — | .14 | 3A @ 125VAC | Solder lugs | Red | $.55 | $.50 |
| 307889ER | DS133 — NEW | 8 | 29/64" | SPST off-(on) | 1.03 x 0.56 x 0.46 | — | — | 10A @ 125VAC | Solder lugs | Black | 4.15 | 3.75 |
| 26649ER | MS103 | 1 | 1/4" | SPST on-(off) | .65 (D) x 1.10 (E) | — | .17 | 3A @ 125VAC | Solder lugs | Black | .55 | .50 |
| 71642ER | SWB210 | 2 | 7/32" | SPST off-(on) | .33 x .36 x .20 | .20 | .20 | 1A @ 120VAC | PC right angle | Black | 2.19 | 1.99 |
| 121304ER | CK8121 | 3 | 1/4" | SPDT on-(on) | .52 x .27 x .38 | — | .185 | 5A @ 125VAC | Solder lugs | White | 3.59 | 3.25 |
| 164638ER | MS3120R | 4 | — | SPST off-(on) | 1.1" L x .31" Dia. | .175" | — | 3A @ 125VAC | Solder terminal | Red | 1.32 | 1.19 |
| 106112ER | DS412R | 5 | — | SPST off-(on) | .63" L x .66" Dia. | .275" | — | 3A @ 125VAC | Solder lugs | Red | 1.19 | 1.05 |
| 171774ER | AV191003C900 | 6 | 3/4" | SPST off-(on) | 1.20" L x 0.87" Dia. | 0.37" | — | 2A @ 48VDC | Screw | Silver | 11.95 | 10.84 |
| 174414ER | R13-510A — NEW | 7 | 1/2" | SPST off-(on) | .67" L x 0.31" Dia. | — | .167 | 3A @ 125VAC | Solder lugs | Red | .79 | .78 |

## Tactile Switch

- Bounce time: 10 msec.
- SPST momentary ON
- Contact resistance: 100mΩ

Expanded Selection



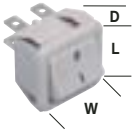

✳ Prepackaged: order in increments of 10

| Part No. | Mfr. Cross Ref. No.* | Pins | Dimensions (in.) L | W | D | C | Lead Spacing A" | B" | Contact Rating | Lead Type | Button Color | Pricing 1 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 155379ER | KRS-1273B | 4 | .47 | .47 | .14 | .14 | .17 | .53 | 50mA @ 12VDC | PC | Brown | $.39 | $.35 |
| 119010ER | KTIIBICM | 8 | .24 | .24 | .15 | .13 | .17 | .25 | 20mA @ 15 VDC | PC | Black | .27 | .24 |
| 149948ER | KT11P4CM | 4 | .24 | .24 | .15 | .30 | .17 | .25 | 20mA @ 15 VDC | PC | Black | ✳ | .23 |
| 199726ER | EVQ11A04M | 2 | .24 | .24 | .14 | .30 | .20 | — | 20mA @ 15 VDC | PC | Black | ✳ | .171 |

*Manufacturer cross reference number and manufacturer may vary

## PC Rocker Switch

- For mini-tower cases
- DPST
- Contacts rated at 250VAC
- UL/CSA approved
- Size: 0.9"L x 1.2"W x 1.4"D




| Part No. | Description | Current | 1 | 10 | 100 |
|---|---|---|---|---|---|
| 127028ER | PC rocker | 10A .... | $2.95 | $2.69 | $2.39 |

**Over 99% of our products are in stock! Place your order by 6PM EST for same business day shipment. Call us today at 1-800-455-6119.**

COLOR CODE LEGEND... NEW SALE REFURBISHED CLOSEOUT

## Full-Size Toggle Switches

- Panel mount • Mounting hole diameter: 1/2" • Full-size round lever
- Medium duty • Keyed plate indicates switch position

**Includes:** Mounting hardware and on/off plate

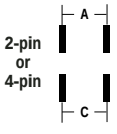



Fig. 1

Fig. 2

| Part No. | Mfr. Cross Ref. No. | Fig. | Pins | Type | Dimensions L" x W" x D" | Lead Spacing A" | Lead Spacing B" | Lead Spacing C" | Contact Rating (A @ VAC) | Lead Type | Lever Type | Pricing 1 | Pricing 10 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **76241ER** | SWM128 | 1 | 2 | SPST on-off | 1.00 x .56 x .52 | .23 | — | — | 4 @ 125 & 2 @ 250 | Solder lugs | Round | **$1.49** | **$1.29** |
| **158060ER** | JKN32 — NEW | 1 | 4 | DPST on-on | 1.00 x .56 x .52 | .23 | — | .23 | 4 @ 125 & 2 @ 250 | Solder lugs | Round | **1.15** | **1.05** |
| **158078ER** | JKN3CC | 1 | 6 | DPDT on-on | 1.19 x .76 x .73 | .44 | .59 | .44 | 10 @ 125 & 6 @ 250 | Screw lugs | Round | **1.75** | **1.59** |
| **76232ER** | SWM125 | 2 | 2 | SPST on-off | 1.00 x .53 x .51 | — | — | — | 6 @ 125 & 3 @ 250 | 6" lead wire | Round | **1.75** | **1.59** |

## Pushbutton Binary Coded Decimal (BCD) Switch

**Pushbutton Switch Specifications:**

- Contact resistance: 100mΩ max.
- 1/16" maximum panel thickness
- Gold plated BE-CU alloy contacts
- 0.15A @ 50VAC/28VDC
- Break before make
- Operating temperature: -40°C to +85°C
- Continuous load: 1 amp max.
- Front snap-tab mounting with end plates
- Switches snap together

**26788ER**
**(2 switches shown)**

| Part No. | Mfr. Cross Ref. No. | Description | Size (L" x W" x D") | Character Height | Pricing 1 | Pricing 10 |
|---|---|---|---|---|---|---|
| **26788ER** | MX72 —NEW | 10-position pushbutton | 1.2 x 0.3 x 1.7 | 0.19" | **$5.69** | **$5.15** |
| **26761ER** | MXEP2 —NEW | Mounting end plates for 26788 | 1.2 x 0.2 x 1.1 | — | **1.15** | **.99** |

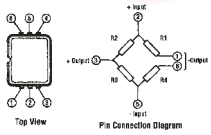
## 12VDC Solenoid Valve

- Operating voltage: 12VDC
- Operational temperature: -29˚C to 85˚C
- Current: 350mA
- Air leakage: 1c.c./min. max. 4psi
- 0.250" quick disconnect terminals
- Size: 1.2"L x 0.92"Dia • Weight: 0.1 lbs.

| Part No. | Description | 1 | 10 |
|---|---|---|---|
| **169834ER** | Solenoid valve | **$6.95** | **$6.25** |

## Servoflo 0 to 7 PSI Pressure Sensor

- Max. load pressure: 10.5 PSI
- Input excitation: 1.5mA
- Span output: 60-140mV
- Bridge resistance: 5kΩ ±1kΩ
- Accuracy: ±5% full scale
- High output, accuracy and stability
- Low noise
- 1/8" diameter tubing is applicable
- Size: 0.5"L x 0.5"W x 0.2"H




| Part No. | Product No. | 1 | 10 |
|---|---|---|---|
| 163731ER | FPM07PG — NEW | **$11.95** | **$10.19** |

## 12VDC Inductive Proximity Switch Sensors

***Cylindrical and Square Styles***

Expanded Selection

**167020ER (12mm)**

**155571ER (18mm)**

- Operating voltage range: 10-30VDC
- Nominal operating voltage: 12VDC
- Current consumption: 10mA max.
- Switching frequency: 1.5kHz
- Sensing target: inductive type – magnetic metal
- Sensing distance: ±10% (tin)
- Fast response
- Short circuit protected
- 6' long cable
- LED status indicator
- Pre-tinned pigtail

| Part No. | Product No. | Output Circuit | Effec. Dist. (Iron) | Standard Target (Iron) (mm) | Size (L" x W" x H") | Mounting Hole (in.) | Pricing 1 | Pricing 10 | Pricing 25 |
|---|---|---|---|---|---|---|---|---|---|
| **167020ER** | TS12-02N-1 | NPN | 0-1.6mm | 12 x 12 x 1 | 1.8"L x 0.46"Dia. | 0.46 | **$20.65** | **$18.61** | **$16.75** |
| **155571ER** | TS18-05N-1 | NPN | 0-4.0mm | 18 x 18 x 1 | 1.6"L x 0.70"Dia. | 0.70 | **24.95** | **22.46** | **20.21** |

## Ultrasonic Sensor Sets

- Use for motion or distance sensing
- Frequency: 40kHz ±1.0kHz
- Aluminum case

**136653ER:**
**Transmit/Receive Set**

- Capacitance: 2000pF ±30%
- Case size: 0.47"H x 0.62" Dia.
- Transmitter: bandwidth 4.0kHz/112dB, sound pressure level 119dB/40±1.0kHz
- Lead length/spacing: 0.39"
- Receiver: bandwidth 3.5kHz @ -71dB, min. sensitivity 65dB/40±1.0kHz (0dB vs 1V µbar) R=3.9kΩ

136653ER

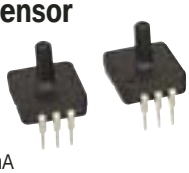
139491ER

**139491ER:**
**Transmit/Receive Set**

- Capacitance: 2000pF ±20%
- Lead length/spacing: 0.28"
- Transmitter: bandwidth 5.0kHz/100dB, sound pressure level 112dB/40 ±1.0kHz
- Receiver: bandwidth 5.0kHz @ -75dB, minimum sensitivity 67dB/40 ±1.0kHz (0dB vs 1V µbar) R=3.9kΩ
- Case size: 0.30"H x 0.43"Dia.

| Part No. | Mfr. Cross Ref. No. | 1 | 10 |
|---|---|---|---|
| **136653ER** | 40TR16F | **$6.95** | **$6.29** |
| **139491ER** | 40TR12B | **6.95** | **6.29** |

## Fujikura -1.1 to 2.5 PSI Pressure Sensor



- Measurable pressure range: -1.1 to 2.5 PSI
- Maximum load pressure: twice of rated pressure
- Volt-level output
- Operating voltage: 5V @ <10mA
- Maximum excitation voltage: 8V
- Pressure type: gauge pressure
- Pressure media: non-corrosive gas
- On-chip amplification and temp. compensations
- Pre-calibration of offset voltage and span

| Part No. | Product No. | 1 | 10 |
|---|---|---|---|
| **196103ER** | XFPN-025-KPGRNW1 | **$24.95** | **$21.25** |

## Latched Hall Effect Sensor

- SP (south pole): on
  NP (north pole): off
- Supply voltage: 20Vcc
- Supply current: 4mA
- Output current: 20mA
- Max. operating point: ≤ 130
- Max. release point (gauss): ≤ 130

| Part No. | Mfr. Cross Ref. No. | 1 | 10 |
|---|---|---|---|
| **174043ER** | HI-300 | **$.95** | **$.86** |

*More at www.Jameco.com*

## 0 to 1.45 PSI Pressure Sensor

- Typical full scale span @ 35mV: 0-10kPa (0-1.45 PSI)
- Maximum pressure ($P_{MAX}$): 75kPa (10.875 PSI)
- Operating volt. (typical): 3VDC @ 6mA
- Applications: air movement control, level indicators, leak detection, robotics and industrial controls
- 1/8" diameter tubing applicable
- Size: 0.7"Dia. x 0.78"Thick (with nozzle)

| Part No. | Product No. | 1 | 10 |
|---|---|---|---|
| **218827ER** | MPX10GS | **$8.99** | **$7.99** |

## Vibration/Tilt Switch Sensor

Detects motion or vibration when the switch is mounted such that its main axis is near to the horizontal.

- Contact form: SPDT
- Max. contact load: 24VDC/115VAC @ 0.5A
- Typical contact resistance: 1Ω (measured at 5VDC @ 0.01A with switch tilted 45˚ beyond operating point)
- Tilt: one plane only; ±10 deg. included angle
- Minimum operating temperature: -37˚C

| Part No. | Mfr. Cross Ref. No. | 1 | 10 |
|---|---|---|---|
| **235926ER** | Series 3004 | **$1.49** | **$1.25** |

## Omnidirectional Electret Condenser Microphone Cartridges

- For use with tape recorders, intercoms, hearing aids, telephone and answering devices, sonic controlled toys and sensors
- Used for recording, testing, and monitoring
- Modems for computers

116505ER 160979ER 136573ER

| Part No. | Type | Sensitivity | Impedance | Frequency (Hz) | Max. Op. Volt. (VDC) | Stand Op. Volt. (VDC) | Current (Max.) | Sensitivity Reduction | S/N Ratio | Terminals | Size (H x Dia.) | Pricing 1 | Pricing 10 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 116505ER | WM-54PC | -44 ±2dB | >2.2kΩ | 20-16,000 | 10V | 2.5V | 0.6mA | -3dB @ 2V | >60dB | PC pin leads | .20" x .38" | $.69 | $.62 |
| 160979ER | WM-64PKT | -44 ±3dB | >2.2kΩ | 20-16,000 | 10V | 2.0V | 0.5mA | -3dB @ 1.5V | >58dB | PC pin leads | .10" x .24" | .72 | .65 |
| 136573ER | WM-60PC | -54 ±2dB | >2.2kΩ | 20-12,000 | 12V | 4.5V | 0.5mA | -3dB @ 3V | >40dB | PC pin leads | .30" x .38" | .53 | .48 |

## Square/Round Ferrite Speaker

Expanded Selection

- Pre-tinned speaker lugs
- Anodized metal surfaces
- Large magnet
- Braided copper voice coil leads
- Paper diaphragm

side

back

| Part Number | Mfr. Cross Ref. No. | Dimensions (Dia." x D") | Input (W) Nom | Input (W) Max | Impedance (Ω) | Output SPL (dB) | Frequency Range (Hz) | Magnet Size (Dia." x H") | Shape | Pricing 1 | Pricing 10 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 99995ER | FEB204 | 2.6 x 0.9 | 3.0 | 4.0 | 4 | 95 | 300-1400 | 1.8 x 0.5 | Square | $2.49 | $2.25 |
| 31958ER | FEB216 NEW | 2.6 x 0.8 | 0.2 | 0.4 | 16 | 85 | 330-8000 | 1.3 x 0.4 | Square | 2.25 | 1.99 |
| 308267ER | GA0501M NEW | 2.0 x 0.8 | .25 | .5 | 8 | 85 | 500-7800 | 0.9 x 0.4 | Round | 1.99 | 1.79 |

## Buzzers and Sonic Transducers

Fig.1

Fig.2

Fig.3

Fig.4

Fig.5

Fig.6

SALE

Fig.7

### *Magnetic Transducers*

- Applied voltage: 1/2 duty, square wave

| Part Number | Fig. | Operating Volt. (Vp-p/mA) | Voltage Range (Vp-p) | Frequency (Hz) | Sound (dB) | Dimensions | Pricing 1 | Pricing 10 |
|---|---|---|---|---|---|---|---|---|
| 138721ER | 1 | 1.5/10 | 1 – 2 | 2048 | 80 | .32"H x .46"Dia. | $1.49 | $1.35 |
| 207968ER | 3 | 1.5/80 | 1 – 2 | 2731 | 80 | .22"H x .35"Dia. | .65 | .59 |
| 138739ER | 1 | 5/40 | 3 – 8 | 2400 | 85 | .35"H x .46"Dia. | 1.49 | 1.29 |
| 106500ER | 1 | 5/40 | 3 – 8 | 2400 | 85 | .40"H x .48"Dia. | 1.49 | 1.29 |
| 207933ER | 2 | 5/100 | 4 – 8 | 3100 | 85 | .28"H x .38"Dia. | .66 | .60 |
| 207950ER | 3 | 5/100 | 4 – 8 | 3100 | 85 | .22"H x .35"Dia. | .81 | .74 |

### *Magnetic Buzzers*

| Part Number | Fig. | Operating Volt. (VDC/mA) | Voltage Range (VDC) | Frequency (Hz) | Sound (dB) | Dimensions | Pricing 1 | Pricing 10 |
|---|---|---|---|---|---|---|---|---|
| 76064ER | 4 | 5/30 | 4 – 7 | 2300 | 85 | .35"H x .46"Dia. | $2.99 | $2.69 |

### *Piezo Buzzers*

| Part Number | Fig. | Operating Volt. (VDC/mA) | Voltage Range (VDC) | Frequency (Hz) | Sound (dB) | Dimensions | Pricing 1 | Pricing 10 |
|---|---|---|---|---|---|---|---|---|
| 196357ER | 4 | 12/5.8 | 3 – 16 | 4000 | 86 | .30"H x .54"Dia. | $2.69 | $2.45 |
| 138712ER | 4 | 12/7 | 3 – 16 | 4000 | 80 | .30"H x .54"Dia. | 2.49 | 2.25 |
| 207992ER | 5 | 12/250 | 6 – 16 | 3500 | 105 | 2.3"L x 1.8"W x 1.6"H | 6.95 | 6.29 |
| 32601ER | 6 | 24/15 | 1 – 28 | 2900 | 95 | 1.4"H x 1.7"Dia. | 4.95 | 4.45 |
| 123537ER | 6* | 24/20 | 4 – 28 | 2900 | 80 | 1.4"H x 1.7"Dia. | 4.19 | 3.79 |
| 76021ER | 7 | 24/20 | 1.5 – 28 | 3200 | 95 | 1.0"H x 1.1"Dia. | 4.99 | 4.49 |

* Dual tone

## A Renaissance Inventor

*Otis Boykin (1920-1982)*

From guided missiles to film capacitors to pacemakers, Otis Boykin distinguished himself as an icon in the history of electronics.

Some people are lucky to have one truly great idea in a lifetime, but Otis Boykin had a biography full of them. The technology he pioneered is in modern guided missiles, computers, security systems, environmental-protection devices, and medical systems. His invention of the pacemaker alone has saved countless lives, and given quality of life back to many, many more.

His impressive list of innovations helped make many essential modern technologies practical and available, not just to the military and huge corporations, but to the consumer as well.

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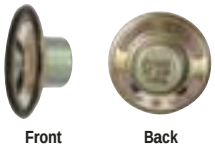
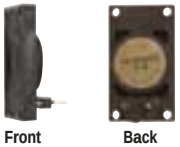
## Micro Speakers

NEW

307820ER
Front Back

307871ER 
Front Back

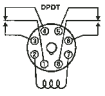
307854ER 
Front Back

| Part Number | Mfr. Cross Ref. No. | Dimensions (Dia." x D") | Input Nom(W) | Input Max (W) | Impedance (ohms) | Output SPL (dB) | Frequency Range (Hz) | Magnet Size (Dia' x H') | Pricing 1 | Pricing 10 |
|---|---|---|---|---|---|---|---|---|---|---|
| 307820ER | GC0201M | 1.75 x 0.38 | 0.1 | 0.2 | 8 | 78 | 600-8000 | 0.67 x 0.13 | $1.39 | $1.25 |
| 307871ER | GC0401M | 1.57 x 0.67 | 0.2 | 0.3 | 8 | 80 | 600-8000 | 0.71 x 0.43 | 2.89 | 2.59 |
| 307854ER | GC0251KP* | 1.0"L x 0.55"W | 1 | 1.5 | 8 | 80 | 750-3500 | 0.43 x 0.08 | 1.85 | 1.75 |

* Rectangular micro speaker

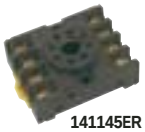
COLOR CODE LEGEND... NEW SALE REFURBISHED CLOSEOUT

## General Purpose Relays



139740ER

172718ER



141145ER

- DPDT • 8-pins

**Pin Type Terminals – Series 78**
- Contact voltage: 240VAC

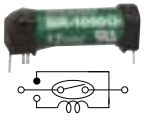
**Pin Type Terminals – Series 250**
- Contact rating: 120/240VAC, 28VDC @ 10A
- Ambient temp. operating: -10˚C to +50˚C
- Size: 1.4"L x 1.4"W x 2.7"H

| Part No. | Mfr. Cross Ref. No. | P&B Cross Ref. | Coil Voltage | 1 | 10 |
|---|---|---|---|---|---|
| | | *Series 78* | | | |
| 172718ER | LB2-12DS | K10-11D15-12 | 12VDC | $4.99 | $4.49 |
| | | *Series 250* | | | |
| 139766ER | BTA1-2C-12VDC | R02-11D10-12 | 12VDC | $9.49 | $8.55 |
| 139740ER | BTA1-2C-120VAC | R02-11A10-120 | 120VAC | 9.95 | 8.79 |

*Series 250 Sockets*

| Part No. | Voltage | Current | Pins | Size | 1 | 10 |
|---|---|---|---|---|---|---|
| 141145ER | 250VAC | 20 amps | 8 | 2.0"L x 1.6"W x 0.8"H | $3.99 | $3.65 |
| 141153ER | 250VAC | 20 amps | 11 | 2.0"L x 1.7"W x 1.2"H | 5.19 | 4.85 |

## Reed Type Relay



- Manufacturer: Bestar • Contact voltage: 120VAC/60VDC
- Contact current: 0.1A • Terminal type: PCB solder
- Dielectric strength: 1500VDC (between contact and coil)
- 4-pin • Operating temperature: -30°C to +60°C

| Part No. | Mfr. Cross Ref. No. | Dimensions (L x W x H) | Contact Form | Coil Voltage | Coil | 1 | 10 |
|---|---|---|---|---|---|---|---|
| 111448ER | RC108T | 1.0" x .37" x .38" | SPST-NO | 12VDC | 1050Ω | $.35 | $.32 |

## Rayex General Purpose Relays

### *Potter and Brumfield Type LB2 Series*

Expanded Selection

172718ER

- DPDT • 8-pins
- Contact rating: 240VAC/30VDC @ 12A
- Mechanical life: 10,000,000 operations
- Electrical life: 100,000 operations min. at rated load

| Part No. | Product No. | P & B Cross Ref. | Coil Voltage | 1 | 10 |
|---|---|---|---|---|---|
| 172718ER | LB2-12DS | K10-11D15-12 | 12VDC | $4.99 | $4.49 |
| 175564ER | LB2-24DS — NEW | K10-11D15-24 | 12VDC | 5.99 | 5.49 |
| 175572ER | LB2-110AS — NEW | K10-11A15-120 | 110VAC | 6.25 | 5.49 |

### *Rayex LB2 Socket*

- DIN rail snap socket for LB2 relays

| Part no. | Product No. | P & B Cross Ref. | Pins | 1 | 10 |
|---|---|---|---|---|---|
| 175530ER | PTF08AA — NEW | 27E895 | 8 | $5.95 | $5.39 |

### *Rayex LB4H Series*

175601ER

- Insulation resistance: 1,500MΩ @ 500VDC
- Mechanical life: 10,000,000 operations • 4PDT
- Contact rating: 240VAC/30VDC @ 5A • 14-pin
- Electrical life: 100,000 operations min. at rated load

| Part No. | Product No. | P & B Cross Ref. | Coil Voltage | 1 | 10 |
|---|---|---|---|---|---|
| 291506ER | LB4H-12DS — NEW | KHAU-17D12-12 | 12VDC | $4.45 | $4.33 |
| 175601ER | LB4H-24DS — NEW | KHAU-17D12-24 | 24VDC | 5.09 | 4.93 |

### *Rayex LB4H Socket*

- DIN rail snap socket for LB4H relays

| Part No. | Product No. | P & B Cross Ref. | Pins | 1 | 10 |
|---|---|---|---|---|---|
| 175556ER | PYF-14A-A — NEW | 27E894 | 14 | $3.95 | $3.49 |

## Small High-Current PC Mount Relays

An inexpensive means of switching loads up to 30 amps. While these small, low-cost relays are designed primarily for the appliance industry and the heating, air conditioning and ventilation markets, they are also well suited for automotive load management and other applications.

- Meets UL class F insulation standard
- Mechanical life expectancy: 10 million operations
- Electrical life expectancy: 100,000 operations at rated loads
- Dielectric strength: 1500Vrms (between contact and coil)

**144186ER**: For use with universal relay card (P/N 128910ER, pg 98)

A

B

C

Fig. 1

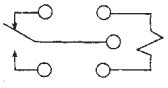


Fig. 2

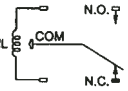
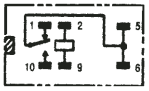



Fig. 3




| Part No. | Mfr. Cross Ref. No. | Manufacturer | Potter & Brumfield Cross Reference | Fig. | Contact Form | Coil Voltage | Coil (Ohms) | Contact Voltage | Contact Current | Pins | L x W x H (in.) | Pricing 1 | Pricing 10 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 187240ER | G5V-1-DC5 | Omron | — | 3C | SPDT | 5VDC | 166.7 | 125VAC/24VDC | .5A/1A | 6 | .50 x .30 x .40 | $2.05 | $1.79 |
| 172937ER | JS1-12V | Nais (Aromat) | T72M5D121-12 | 2B | SPDT | 12VDC | 400 | 125VAC/24VDC | 10A/5A | 5 | .85 x .62 x .63 | 1.09 | .99 |
| 144186ER | JZC-22F | Velleman | VR15M121C | 1A | SPDT | 12VDC | 337 | 120VAC/28VDC | 15A | 5 | .80 x .64 x .80 | 3.79 | 3.39 |

## W58 Series Thermal Circuit Breakers

282597ER

- Max. operating voltage: 50VDC; 250VAC 50/60Hz
- Interrupt capacity: 2,000A @ 50VDC; 1,000A @ 250VAC 50/60Hz
- Endurance cycling: >1,000 operations @ 200% of rating
- Dielectric strength: >1,500Vrms • Push button to reset breaker

| Part No. | Product No. | Amp | Resistance | 1 | 10 |
|---|---|---|---|---|---|
| 282562ER | W58-XB1A4A-10 ♠ — NEW | 10 | 0.014 | $2.99 | $2.95 |
| 282571ER | W58-XB1A4A-15 ♠ — NEW | 15 | 0.010 | 3.19 | 3.03 |
| 282589ER | W58-XB1A4A-20 ♠ — NEW | 20 | 0.006 | 3.19 | 3.03 |
| 282597ER | W58-XB1A4A-30 ♠ — NEW | 30 | — | 3.19 | 3.03 |

♠ These products ship from a separate warehouse and may not ship the same day. Each warehouse will accrue separate shipping charges. Sorry we are not able to ship C.O.D.

## R10 Series General Purpose Multicontact AC/DC Relay

- 4PDT • Expected mechanical life: 100 million operations typical
- Dielectric strength: 1,000Vrms between open contacts; 1,000Vrms between all other conductors
- Capacitance: 2pF typical between contacts; 2pF between contacts and coils; 30pF typical between coil and frame

| Part No. | Product No. | Voltage | Resistance | 1 | 10 |
|---|---|---|---|---|---|
| 282538ER | R10-E1X4-V185 ♠ — NEW | 12VDC | 185Ω | $14.55 | $13.82 |

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## DC/AC and DC/DC Solid State Relays

- Screw terminal with hardware
- Photo isolation
- Metal mounting base
- Manufacturer may vary

Expanded Selection

(Fig. 1)

(Fig. 2)

(Fig. 3)

(Fig. 4)

(Fig. 5)

| Part No. | Product No. | Mfr. | Control Voltage | Type | Contact Style | Contact Voltage | Contact Current | Pins | Fig. | Terminal Type | Agency Approval | Size L" x W" x H" | Pricing 1 | Pricing 10 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | *Solid State Relays DC/AC Type* | | | | | | | | | |
| **162341ER** | ESR51024-010 † | Excel | 3-32VDC | DC/AC | SPST | 240VAC | 10A | 4 | 3 | Screw Terminal | UL | 1.7 x 1.1 x 2.3 | **$15.95** | **$14.39** |
| **162368ER** | ESR51024-025 † | Excel | 3-32VDC | DC/AC | SPST | 240VAC | 25A | 4 | 3 | Screw Terminal | UL | 1.7 x 1.1 x 2.3 | **21.95** | **19.79** |
| **162405ER** | ESR51024-040 † | Excel | 3-32VDC | DC/AC | SPST | 240VAC | 40A | 4 | 3 | Screw Terminal | UL | 1.7 x 1.1 x 2.3 | **22.99** | **20.69** |
| **105081ER** | 615-8500 ✤ | Teledyne | 3-32VDC | DC/AC | SPST | 250VAC | 10A | 4 | 2 | Screw Terminal | UL | 1.7 x 1.1 x 2.3 | **15.99** | **14.39** |
| **176698ER** | KB20C06A | Kyoto | 3-32VDC | DC/AC | SPST | 280VAC | 6A | 4 | 1 | Solder Lead | — | 1.4 x 0.3 x 0.9 | **9.99** | **8.99** |
| **164988ER** | S101S02 | Sharp | 1.2VDC@20mA | DC/AC | — | 125VAC | 1.5A | 4 | 5 | Solder Lead | UL/CSA | 0.9 x .16 x .63 | **3.95** | **3.49** |
| **164996ER** | S202TA1 | Sharp | 1.2VDC@20mA | DC/AC | — | 200VAC | 2.0A | 4 | 5 | Solder Lead | UL/CSA | 0.9 x .16 x .63 | **4.95** | **4.49** |
| | | | | | *Solid State Relays DC/DC Type* | | | | | | | | | |
| **172591ER** | KF0602D | Kyoto | 3-32VDC | DC/DC | SPST | 60VDC | 2A | 4 | 1 | Solder Lead | — | 1.4 x 0.3 x 0.9 | **$9.95** | **$8.95** |
| **175222ER** | KF0604D | Kyoto | 3-32VDC | DC/DC | SPST | 60VDC | 4A | 4 | 1 | Solder Lead | — | 1.5 x 0.3 x 0.9 | **11.95** | **11.25** |
| **176647ER** | KG1005D | Kyoto | 3-32VDC | DC/DC | SPST | 120VDC | 5A | 4 | 4 | Screw Terminal | — | 2.3 x 1.7 x 0.9 | **26.99** | **24.29** |
| **176655ER** | KG1010D | Kyoto | 3-32VDC | DC/DC | SPST | 120VDC | 10A | 4 | 4 | Screw Terminal | — | 2.3 x 1.7 x 0.9 | **29.99** | **26.99** |

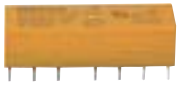
† Zero crossing ✤ **Pull = Extra Savings**

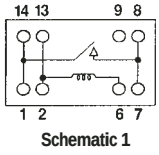
## DIP Relays

- Logic control levels
- Moisture resistant
- Compatible with IC sockets
- Long life with reliable operation
- Compact design/ construction
- Excellent for PCB applications

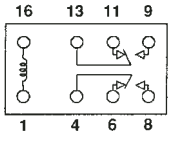
106462ER

99901ER

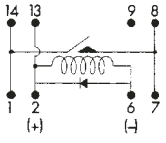

136549ER



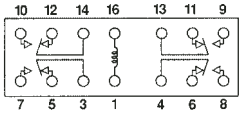
Schematic 1



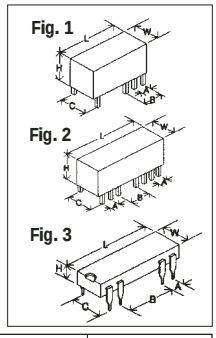
Schematic 3



Schematic 2



Schematic 4

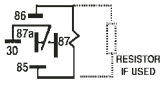



| Part Number | Product Number | Manufacturer | Contact Schem. | Contact Form | Coil Voltage | Coil Ohms | Contact Voltage | Contact Current | Pins | Jameco Socket | Fig. | Size L x W x H (in.) | Leads A x B x C (in.) | Pricing 1 | Pricing 10 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **106462ER** | 201A05 | Excel Cell Elect. | 1 | SPST-NO | 5VDC | 500 | 100VDC | 0.5A | 8 | 37161ER | 3 | .78 x .25 x .20 | .10 x .40 x .30 | **$2.15** | **$1.81** |
| **138430ER** | 2D1A05 | Excel Cell Elect. | 2 | SPST-NO | 5VDC | 500 | 100VDC | 0.5A | 8 | 37161ER | 3 | .77 x .30 x .22 | .10 x .40 x .30 | **2.29** | **1.95** |
| **106471ER** | 201A12 | Excel Cell Elect. | 1 | SPST-NO | 12VDC | 1000 | 100VDC | 0.5A | 8 | 37161ER | 3 | .78 x .25 x .20 | .10 x .40 x .30 | **2.29** | **1.95** |
| **173913ER** | AZ831-2C-5DSE | American Zettler | 3 | DPDT | 5VDC | 125 | 125VAC/100VDC | .5A/1.25A | 8 | 37401ER | 1 | .79 x .38 x .44 | .18 x .28 x .29 | **2.35** | **2.15** |
| **139977ER** | RSB5S | Shin Mei | 3 | DPDT | 5VDC | 125 | 120VAC/30VDC | 1A/2A | 8 | 37372ER | 1 | .79 x .39 x .37 | .20 x .40 x .30 | **2.49** | **2.25** |
| **99311ER** | DS2Y-S-DC12V* | Aromat (NAIS) | 3 | DPDT | 12VDC | 720 | 110VAC/30VDC | .3A/1A | 8 | 37372ER | 1 | .79 x .40 x .43 | .20 x .40 x .30 | **2.49** | **2.31** |
| **99901ER** | LX200D00 | Clare | 3 | DPDT | 12VDC | 720 | 125VAC/100VDC | 2A | 8 | 37372ER | 1 | .79 x .40 x .30 | .20 x .40 x .30 | **6.95** | **6.25** |
| **99320ER** | LM12E00* | NEC | 3 | DPDT | 24VDC | 1110 | 125VAC/100VDC | 2A | 8 | 37372ER | 1 | .79 x .40 x .43 | .20 x .40 x .30 | **2.95** | **2.69** |
| **136549ER** | DS4E-M-DC5V* | Aromat | 4 | 4PDT | 5VDC | 62.5 | 125VAC/30VDC | .6A/2A | 14 | 112299ER | 2 | 1.40 x .40 x .36 | .20 x .30 x .30 | **5.49** | **4.95** |
| **176313ER** | DS4E-M-DC12V | Aromat | 4 | 4PDT | 12VDC | 360 | 125VAC/30VDC | .6A/2A | 14 | 176313ER | 2 | 1.40 x .40 x .36 | .20 x .30 x .30 | **6.95** | **6.29** |

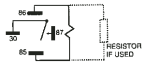
* Manufacturer and Manufacturer Cross Ref. number may vary

## Potter & Brumfield Type Plastic Enclosed Construction Relay

- Dielectric strength: 500VDC (between contact & coil)
- Operating temperature: -35°C to +85°C
- Contact current: 40A • Coil voltage: 12VDC
- Normally open (NO), normally closed (NC)
- Terminal type: quick connect
- Dimensions: 1.1"L x 1.1"W x 1.0"H



Schematic 1



Schematic 2

171432ER

### VF4 Type Relays

| Part No. | Mfr. Cross Ref. No. | P&B Cross Ref. | Contact Form | Coil Ohms | Schematic | Contact Voltage | Pins | 1 | 10 |
|---|---|---|---|---|---|---|---|---|---|
| **171441ER** | 961A-1A12D | VF411F11 | SPST-NO | 90 | 2 | 14VDC | 4 | **$2.35** | **$2.20** |
| **171432ER** | 961A-1C-12DM | VF481F11 | SPDT | 90 | 1 | 12VDC | 5 | **2.99** | **2.69** |
| **148582ER** | LD12F | VF485F11 | SPDT | 78 | 1 | 12VDC | 5 | **2.49** | **2.25** |

### VF4 Type Socket with Coil Diode

- For use with P/N 148582ER (above)
- Contact voltage/current: 12V/20A
- 12 AWG: 2 black and 1 blue wire
- 18 AWG: 1 black and 1 red wire
- 7.5" wire
- Diode coil suppression

| Part No. | Mfr. Cross Ref. No. | Description | 1 | 10 |
|---|---|---|---|---|
| **170624ER** | RSDO3 | Relay socket with coil diode (for P/N 148582ER, above) ..... | **$2.35** | **$2.15** |

### More @ www.Jameco.com

**Our complete selection of Relays and Relay Sockets is at www.Jameco.com.**

COLOR CODE LEGEND... NEW SALE REFURBISHED CLOSEOUT

# D-Subminiature Connectors

Expanded Selection

## Solder-Cup Connectors

15114ER Front

15114ER Back

- Compatible with 24 AWG communications and 22 AWG solid cable, pg 29 • Shell: tin plated metal

| Part No. | Contacts | Gender | 1 | 10 |
|---|---|---|---|---|
| 15747ER | 9 | M | $.56 | $.44 |
| 15771ER | 9 | F | .59 | .49 |
| 15077ER | 15HD* | M | .69 | .59 |
| 164822ER | 15HD* | F | .79 | .69 |
| 15034ER | 15 | M | .55 | .49 |
| 15051ER | 15 | F | .59 | .49 |
| 15114ER | 25 | M | .99 | .89 |
| 15157ER | 25 | F | .79 | .72 |
| 15472ER | 37 | M | .99 | .85 |
| 15499ER | 37 | F | 1.19 | 1.05 |

*High Density

## Straight PC Mount Connectors

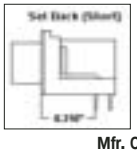
- Non-removable contacts
- 125 Vrms
- Current rating: 5 amps
- Operating temp.: -65°F to +250°F
- Shell: tin plated metal

15122ER

15780ER

| Part No. | Mfr. Cross Ref. No. | Contacts | Gender | 1 | 10 |
|---|---|---|---|---|---|
| 111691ER | DB9PPCB | 9 | M | $.55 | $.45 |
| 15780ER | DB9SPCB | 9 | F | .55 | .45 |
| 176760ER | DA15PPCB | 15 | M | .49 | .42 |
| 176751ER | DA15SPCB | 15 | F | .49 | .42 |
| 15122ER | DB25PPCB | 25 | M | .65 | .59 |
| 15165ER | DB25SPCB | 25 | F | .74 | .67 |
| 180021ER | DC37SPCB | 37 | F | .85 | .72 |

## Right Angle PC Mount Connectors



### 0.318" Set Back

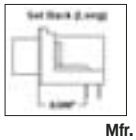
- Short style
- Lead length: .138"
- Lead spacing: .115"
- Shell: tin plated metal
- Current rating: 1A

15149ER

| Part No. | Mfr. Cross Ref. No. | Cont. | Gender | 1 | 10 |
|---|---|---|---|---|---|
| 104942ER | DB9P318 | 9 | M | $.55 | $.50 |
| 104951ER | DB9S318 | 9 | F | .60 | .55 |
| 71124ER | DA15P318 | 15 | M | .69 | .59 |
| 77956ER | DA15S318 | 15 | F | .79 | .69 |
| 168743ER | HDDB15S318* | 15 | M | .49 | .42 |
| 71466ER | HDDB15S318* | 15 | F | .59 | .53 |
| 15149ER | DB25P318 | 25 | M | .79 | .65 |
| 15181ER | DB25S318 | 25 | F | .89 | .79 |
| 71706ER | DC37P318 | 37 | M | .99 | .89 |
| 78182ER | DC37S318 | 37 | F | 1.15 | .95 |

*High Density

### 0.590" Set Back



- Lead length: .178"
- Lead spacing: .104"
- Current rating: 1A
- Shell: metal
- Long style

104977ER

| Part No. | Mfr. Cross Ref. No. | Cont. | Gender | 1 | 10 | 100 |
|---|---|---|---|---|---|---|
| 104969ER | DB9P590 | 9 | M | $.99 | $.83 | $.72 |
| 104977ER | DB9S590 | 9 | F | .89 | .79 | .75 |
| 105005ER | DB25P590 | 25 | M | .99 | .89 | .79 |
| 105013ER | DB25S590 | 25 | F | 1.25 | 1.12 | .99 |

**Find more @ www.Jameco.com**

## Crimp-Type Connectors and Pins

38771ER

19094ER

43369ER

- Metal shell; removable male/female crimp pins
- Male/female pins: gold plated contact; tinned crimp tail
- Insertion/extraction tool: exchangeable tips
- Use 99442ER, pg 60 to crimp 43377ER, 43369ER

✳**Prepackaged: order in increments of 10, 100 or 1000**

| Part No. | Description | 1 | 10 | 100 | 1000 |
|---|---|---|---|---|---|
| 73189ER | DB9 M housing | $.49 | $.39 | $.31 | $.19 |
| 73197ER | DB9 F housing | .49 | .39 | .31 | .19 |
| 38789ER | DB25 M housing | .56 | .44 | .36 | .21 |
| 38771ER | DB25 F housing | .55 | .44 | .31 | .21 |
| 43377ER | M crimp pin ✳ | | .10 | .09 | .08 |
| 43369ER | F crimp pin ✳ | | .08 | .07 | .06 |
| 19094ER | Insert./extract. tool for above pins (HT101) | 2.79 | 2.49 | 2.15 | 2.15 |

## IDC Ribbon Cable Connectors

- Current rating: 1 amp
- Temp range: -55°C to +120°C
- Insulation material: glass-filled polyester
- Contact material: phosphor bronze
- Terminates with standard D-type connectors

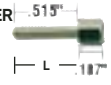
12431ER

| Part No. | Mfr. Cross Ref. No. | Cont. | Gen. | Shell | 1 | 10 |
|---|---|---|---|---|---|---|
| 109225ER | MDB9P† | 9 | M | metal | $1.35 | $1.25 |
| 12503ER | CDB9P | 9 | M | plastic | 2.49 | 1.79 |
| 109217ER | MDB9S† | 9 | F | metal | 1.49 | 1.19 |
| 12520ER | CDB9S | 9 | F | plastic | 2.59 | 2.35 |
| 117381ER | MDA15P | 15 | M | metal | 1.55 | 1.25 |
| 12298ER | CDA15P | 15 | M | plastic | 1.55 | 1.25 |
| 116011ER | MDA15S | 15 | F | metal | 1.55 | 1.25 |
| 12319ER | CDA15S | 15 | F | plastic | 1.69 | 1.35 |
| 115983ER | MDB25P | 25 | M | metal | 1.85 | 1.69 |
| 12335ER | CDB25P | 25 | M | plastic | 1.89 | 1.69 |
| 115975ER | MDB25S | 25 | F | metal | 1.85 | 1.65 |
| 12431ER | CDB25S | 25 | F | plastic | 1.95 | 1.79 |
| 115991ER | MDC37P | 37 | M | metal | 2.39 | 2.15 |
| 12466ER | CDC37P | 37 | M | plastic | 3.09 | 2.79 |
| 116003ER | MDC37S | 37 | F | metal | 2.95 | 2.69 |
| 12482ER | CDC37S | 37 | F | plastic | 3.49 | 2.99 |

†**109225ER/109217ER**: require flat cable with .0625" centers

# 4-40 Mounting Screw Hardware for D-Subminiature Connectors

## 4-40 x .187" Jack Screws



108986ER

✳**Prepackaged: order in increments of 10 or 100**

| Part No. | Description | 1 | 10 |
|---|---|---|---|
| 169931ER | .275"L jack screw ✳ | | $.15 |
| 172603ER | .315"L jack screw ✳ | | .14 |
| 102816ER | .435"L jack screw | .49 | .46 |
| 108986ER | .515"L jack screw | .55 | .50 |

## 4-40 Screw Sets

102808ER

**102808ER:** 4-40 screw (.30"L) and retainer set

**16547ER:** 4-40 x .187" jack screw (.31"L thread), washer, lock washer and nut set

- **Prepackaged: order in increments of 10 or 100**

| Part No. | Description | 10 | 100 |
|---|---|---|---|
| 102808ER | Screw/retainer set | $.39 | $.35 |
| 16547ER | Screw/nut set | .31 | .25 |

# DIN Female Sockets

15851ER

- Metal body
- Panel mount with solder lugs

| Part No. | Mfr. Cross Ref. No. | # of pins | 1 | 10 |
|---|---|---|---|---|
| 15843ER | DINJ5 | 5 | $1.29 | $1.15 |
| 15851ER | DINJ6 | 6 | 1.39 | 1.25 |
| 15860ER | DINJ8 | 8 | 1.49 | 1.35 |

# Right Angle DIN Female Sockets

- Set back: 0.5"
- PC mount contacts

**140791ER/119474ER:** Plastic/metal body

**29399ER:** Plastic body

29399ER

SALE

| Part No. | Mfr. Cross Ref. No. | # of pins | 1 | 10 |
|---|---|---|---|---|
| 140791ER | MDR4S | 4 (mini) | $.62 | $.56 |
| 119474ER | MDR6S | 6 (mini) | .75 | .68 |
| 207722ER | MDS8100 | 8 (mini) | .89 | .80 |
| 29399ER | RD5 | 5 | .59 | .53 |

# DIN and Mini DIN Plugs and Receptacles

177236ER

15886ER

- Solder barrels including strain relief
- See page 29 for cable

| Part No. | Type | Pins | 1 | 10 |
|---|---|---|---|---|
| 142261ER | Mini plug | 6 | $.89 | $.77 |
| 111878ER | Mini plug | 8 | .99 | .89 |
| 177236ER | Mini receptacle | 8 | 1.09 | .93 |
| 15878ER | DIN plug | 5 | .52 | .47 |
| 15886ER | DIN plug | 6 | .59 | .50 |
| 15894ER | DIN plug | 8 | .65 | .56 |

# D-Subminiature Connector Hoods

- Use with D-sub solder cup and housing style connectors

15085ER

| Part No. | Mfr. Cross Ref. No. | Hood | Conn. | 1 | 10 |
|---|---|---|---|---|---|
| 15721ER | DB9H | plastic | 9-pin | $.49 | $.45 |
| 25620ER | MDB9H | metal/plastic | 9-pin | .59 | .49 |
| 147740ER | MDB9H | metal/plastic | 9-pin | 1.45 | 1.29 |
| 15018ER | DA15H | plastic | 15-pin | .49 | .45 |
| 25566ER | MDA15H | metal/plastic | 15-pin | .56 | .44 |
| 15085ER | DB25H | plastic | 25-pin | .45 | .39 |
| 25603ER | MDB25H | metal/plastic | 25-pin | .59 | .49 |
| 15106ER | MDB25H | metal/plastic | 25-pin | 1.39 | 1.19 |
| 15456ER | DC37H | plastic | 37-pin | .59 | .55 |
| 25611ER | MDC37H | metal/plastic | 37-pin | .75 | .69 |

# PCB Right Angle Centronics Connectors

72151ER

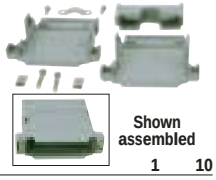
72080ER

- Solder-type contacts • Space between rows: .164"
- Space between pins: 0.1" • Metal body • PC mount

| Part No. | Description | 1 | 10 |
|---|---|---|---|
| 72151ER | 36-contact female | $3.55 | $3.19 |
| 72080ER | 50-contact female | 4.95 | 4.21 |

# 25-Pin Dual Plastic Hood

Designed for custom applications requiring two D-sub connectors. Applications include custom jumper boxes and interconnects.


Shown assembled

| Part No. | Description | 1 | 10 |
|---|---|---|---|
| 34091ER | 25-pin, plastic dual | $.95 | $.85 |

## Modular Telephone Cable – 28 AWG

103430ER

- Color coded conductors • Flat modular cable
- PVC jacket • Gray • 7 x 43 stranded

| Part No. | Cross Ref. No. | Conductors | 100 ft. | 1000 ft. |
|---|---|---|---|---|
| 103430ER | MTC4 | 4 | $3.49 | $30.00 |
| 103448ER | MTC6 | 6 | 7.49 | 50.00 |
| 103450ER | MTC8 | 8 | 9.99 | 62.00 |

## 2-Conductor Stranded Power/Speaker Cable – 24 AWG

- Black wire with white polarity stripe
- Temperature rating: 20˚C to 60˚C
- Stranded copper wire (7 x 32)
- Operating voltage: 300V

| Part No. | Cross Ref. No. | Wt. (lbs.) | 100 ft. | Part No. | Cross Ref. No. | Wt. (lbs.) | 1000 ft. |
|---|---|---|---|---|---|---|---|
| 100280ER | 224BK/C | 0.8 | $5.59 | 100298ER | 224BK/K | 7.8 | $39.95 |

## RG Type Bulk Coaxial Cable

**RG58/U & RG58A/U (50Ω):** Nom. cap.: 27pF/ft.; center resist.: 10.4Ω/kft. @ 77˚F
**RG59/U (75Ω):** Nominal capacitance: 19pF/ft.; center resist.: 16.5Ω/kft. @ 77˚F
**RG174/U (50Ω):** Nominal capacitance: 30.8pF/ft.; center resist.: 97Ω/kft. @ 77˚F

- **Prepackaged and priced in increments of 100' or 1000'**

| Part No. | Cross Ref. No. | Description | 100 ft. | 1000 ft. |
|---|---|---|---|---|
| 102226ER | RG58/U | For ethernet, oscilloscopes (solid 20AWG) | $12.00 | $90.00 |
| 116898ER | RG58A/U | For ethernet, oscilloscopes (stranded 20AWG) | 18.99 | 150.00 |
| 102218ER | RG59/U | For CATV & video patch cords (solid 22AWG) | 12.99 | 110.00 |
| 112037ER | RG174/U | For ethernet, oscilloscopes (stranded 26AWG) | 18.99 | 169.00 |

## Twisted Pair Cable – 24 AWG

- PVC insulation • Use for hook up wire
- Stranded tinned wire (7 x 32) • Reduced EMI
- Wt.: 100' (0.5 lbs.); 1000' (4.7 lbs.)
- 80C° • 300 V

| Part No. | Cross Ref. No. | Color | 100 ft. | Part No. | Cross Ref. No. | Color | 1000 ft. |
|---|---|---|---|---|---|---|---|
| 105911ER | 224GW/C | Green/white | $5.49 | 105806ER | 224GW/K | Green/white | $44.95 |
| 173147ER | 224RW/C | Red/white | 5.49 | 173155ER | 224RW/K | Red/white | 44.95 |
| 173163ER | 224BW/C | Black/white | 5.49 | 173171ER | 224BW/K | Black/white | 44.95 |

## Gray Flat Ribbon Cable – 28 AWG

103481ER

- Single edge red stripe for pin 1 orientation
- Insulation: polyvinyl chloride (PVC) • 28 AWG (7 x 36) • Center spacing: 0.05"
- Voltage rating: 300V • Stranded copper wire • Temp. rating: -20°C to +80°C
- **Prepackaged and priced in increments of 10' or 25'**

| Part No. | Cross Ref. No. | Conductors | 10 ft. | 25 ft. |
|---|---|---|---|---|
| 135538ER | 171-10 | 10 | $1.49 | $3.20 |
| 37671ER | 171-16 | 16 | 2.19 | 5.00 |
| 37719ER | 171-20 | 20 | 3.99 | 6.25 |
| 37760ER | 171-25 | 25 | 3.89 | 8.75 |
| 37807ER | 171-26 | 26 | 3.49 | 8.00 |
| 37840ER | 171-34 | 34 | 4.25 | 9.25 |
| 37911ER | 171-37 | 37 | 5.89 | 11.75 |
| 37920ER | 171-40 | 40 | 7.39 | 17.50 |
| 37954ER | 171-50 | 50 | 6.75 | 14.50 |
| 103481ER | 171-60 | 60 | 8.95 | 19.75 |

## Multicolor Flat Ribbon Cable – 28 AWG

105718ER

- Standard 10-color repeat sequence • 28 AWG (7 x 36)
- Center spacing: 0.05" • Voltage rating: 300V
- Temp. rating: -20°C to +80°C • Stranded copper wire
- **Prepackaged and priced in increments of 10' or 25'**

| Part No. | Cross Ref. No. | Conductors | 10 ft. | 25 ft. |
|---|---|---|---|---|
| 112547ER | 28RC10 | 10 | $1.95 | $4.50 |
| 105671ER | 28RC16 | 16 | 3.25 | 7.25 |
| 105689ER | 28RC20 | 20 | 3.95 | 9.00 |
| 105697ER | 28RC25 | 25 | 6.29 | 14.25 |
| 105700ER | 28RC34 | 34 | 6.99 | 14.75 |
| 105726ER | 28RC40 | 40 | 8.69 | 19.55 |
| 105718ER | 28RC50 | 50 | 10.95 | 24.95 |

## Solid Hook-Up Wire – 22 AWG

- Temp. range: -55°C to +105°C • Passes UL VW-1 flame test
- MIL-W-16878D type B • Wt.: 100' (0.3 lbs.); 1000' (3.8 lbs.)
- For use with breadboards such as the JE20 series, pg 52

| Part No. | Cross Ref. No. | Color | 100 ft. | Part No. | Cross Ref. No. | Color | 1000 ft. |
|---|---|---|---|---|---|---|---|
| 36767ER | 122BE/C | Blue | $5.49 | 36775ER | 122BE/K | Blue | $39.99 |
| 36791ER | 122BK/C | Black | 5.49 | 36804ER | 122BK/K | Black | 39.99 |
| 36821ER | 122G/C | Green | 5.49 | 36839ER | 122G/K | Green | 39.99 |
| 36855ER | 122R/C | Red | 5.49 | 36863ER | 122R/K | Red | 39.99 |
| 36880ER | 122W/C | White | 5.49 | 36898ER | 122W/K | White | 39.99 |
| 36919ER | 122Y/C | Yellow | 5.49 | 36927ER | 122Y/K | Yellow | 39.99 |

## Stranded Hook-Up Wire – 20/22 AWG

***300 Volts***

- 80°C • PVC insulation • CSA: TR-64 • UL style: 1007
- Temperature range: -40°C to +80°C • **Sold in 100' rolls**

| Part No. | Cross Ref. No. | AWG | Strands (No. x AWG) | Color | Wt. (lbs.) | 1 | 10 |
|---|---|---|---|---|---|---|---|
| 126084ER | 223SBK/C | 22 | 7 x 30 | Black | 0.4 | $3.39 | $2.99 |
| 126033ER | 223SR/C | 22 | 7 x 30 | Red | 0.4 | 3.39 | 2.99 |
| 126076ER | 223SW/C | 22 | 7 x 30 | White | 0.4 | 3.39 | 2.99 |
| 125840ER | 203SBK/C | 20 | 10 x 30 | Black | 0.6 | 4.95 | 4.49 |
| 125794ER | 203SR/C | 20 | 10 x 30 | Red | 0.5 | 4.95 | 4.49 |
| 125831ER | 203SW/C | 20 | 10 x 30 | White | 0.5 | 4.95 | 4.49 |
| 125786ER | 183SBK/C | 18 | 16 x 30 | Black | 0.8 | 5.79 | 5.25 |
| 125735ER | 183SR/C | 18 | 16 x 30 | Red | 0.8 | 5.79 | 5.25 |
| 125751ER | 183SW/C — NEW | 18 | 16 x 30 | White | 0.8 | 5.79 | 5.25 |

## Kynar™ Wire Wrap Wire – 30 AWG

22541ER

- Assorted color coded insulation • Used for prototyping
- Color coded Kynar™ (Polyvindene fluoride) insulation
- Silver plated copper (solid conductor) • UL 1423
- Temperature: -40°C to +125°C
- Wire wrap tools, see web • Passes UL VW-1 flame test

| Part No. | Color | Wt. (lbs.) | 100 ft. | Part No. | Color | Wt. (lbs.) | 100 ft. |
|---|---|---|---|---|---|---|---|
| 22541ER | Blue | 0.1 | $4.95 | 22664ER | White | 0.1 | $4.95 |
| 22576ER | Black | 0.1 | 4.95 | 22605ER | Green | 0.1 | 4.95 |
| 22630ER | Red | 0.1 | 4.95 | 22699ER | Yellow | 0.1 | 4.95 |

## Category 5 Network Cable

118130ER

- Insulation: polyethylene • Nom. OD.: 0.189" • UTP
- Nom. impedance: 100Ω • 8C • 4 twisted pairs

**Solid:** uses modular plug P/N 119343ER, pg 72
**Stranded:** uses modular plug P/N 79281ER, pg 72

See pages 72 & 73 for more Modular Cable and Connectors

- **Prepackaged and priced in increments of 25' or 100'**

***24 AWG UTP Category 5 Enhanced – 350MHz***

| Part No. | Description | 25 ft. | 100 ft. |
|---|---|---|---|
| 176225ER | Solid (gray) | $4.99 | $17.00 |
| 201603ER | Stranded (blue) | 4.99 | 14.00 |
| 176233ER | Stranded (gray) | 5.99 | 21.00 |
| 201574ER | Stranded (red) | 5.99 | 18.00 |
| 201582ER | Stranded (blue) | 5.99 | 18.00 |

***24 AWG UTP Category 5 – 100MHz***

| Part No. | Description | 25 ft. | 100 ft. |
|---|---|---|---|
| 118130ER | Stranded (gray) (7/32 AWG) | $5.95 | $19.35 |
| 201646ER | Stranded (gray) (7/32 AWG) | 5.49 | 15.00 |

## Multiconductor Shielded Computer Communication Cable – 24 AWG

31843ER

- Stranded copper wire, multi-colored insulation
- Insulated with polyvinyl chloride (PVC)
- Voltage rating: 300V • Color: gray • Drain wire
- 24 AWG (7 x 32 AWG) • Shielded 100% w/ aluminum mylar
- **Prepackaged and priced in increments of 25' or 100'**

| Part No. | Cross Ref. No. | Conductors | Diameter | 25 ft. | 100 ft. |
|---|---|---|---|---|---|
| 31860ER | SC4 | 4 | 0.20" | $4.75 | $17.00 |
| 31878ER | SC9 | 9 | 0.23" | 11.25 | 35.00 |
| 31843ER | SC15 | 15 | 0.28" | 14.75 | 49.00 |
| 31851ER | SC25 | 25 | 0.37" | 22.25 | 71.00 |

COLOR CODE LEGEND... NEW SALE REFURBISHED CLOSEOUT

## Terminal Blocks

DINKLE OST

- For detailed specifications, please see our website at www.Jameco.com

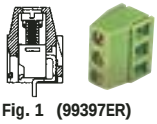


Fig. 1 (99397ER)

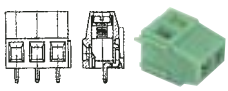


Fig.2 (160784ER)

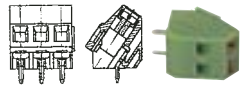


Fig. 3 (161066ER)

| Part No. | Mfg. | Product No. | Fig. | Term. | Terminal Spacing | 1 | 10 |
|---|---|---|---|---|---|---|---|
| 99426ER | Dinkle | DT128/2 | 1 | 2 | .197"/5mm | $.72 | $.55 |
| 99397ER | Dinkle | DT128V3P | 1 | 3 | .197"/5mm | .99 | .89 |
| 160784ER | Dinkle | EK500V-02P | 2 | 2 | .197"/5mm | .65 | .55 |
| 161066ER | Dinkle | EK500A-02P | 3 | 2 | .197"/5mm | .75 | .65 |
| 161058ER | Dinkle — NEW | EK500A-03P | 3 | 3 | .197"/5mm | .95 | .85 |
| 189675ER | OST | EDC500/2DS | 4 | 2 | .197"/5mm | .79 | .71 |
| 189667ER | OST | EDC500/3DS | 4 | 3 | .197"/5mm | .89 | .80 |
| 152346ER | OST | EDC120/2DS | 8 | 2 | .200"/5.08mm | .65 | .55 |
| 152354ER | OST | EDC120/3DS | 8 | 3 | .200"/5.08mm | .47 | .44 |

Fig. 4 (189675ER)

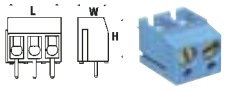



Fig. 5 (152346ER)

## 0.098"-Pitch AT Power Connectors for Motherboards & Power Supplies

- Voltage rating: 250V AC/DC
- Current rating: 7A AC/DC
- Temperature range: -25˚C to 85˚C
- Insulation resistance: 1000MΩ min.
- Withstanding voltage: 1500V/min.

78300ER

78318ER

78326ER

**78300ER: AMP60G male 6-pin PCB mount connector**
- Material of post: tin-plated brass • Diameter of post: .09"

**78326ER: AMP50G female 6-pin housing connector** • Material: nylon

**78318ER: AMP501T terminal pin** • Material: tin-plated brass

✳ **Prepackaged: order in increments of 10**

| Part No. | Description | L | W | H | Dia | Use With | 1 | 10 |
|---|---|---|---|---|---|---|---|---|
| 78300ER | 6-pin male connector | .93" | .37" | .57" | — | — | $.45 | $.39 |
| 78326ER | 6-pin housing connector | .94" | .25" | .74" | — | 78300ER | .35 | .31 |
| 78318ER | Power terminal pin, female | .69" | — | — | .09" | 78326ER | ✳ | .11 |

## 0.118"-Pitch ATX Power Connectors for Motherboards & Power Supplies

147379ER

147387ER

- Voltage rating: 250V AC/DC
- Temperature range: -25˚C to 85˚C • Current rating: 7A AC/DC
- Insulation resistance: 1000MΩ min. • Withstanding voltage: 1500V/min.

**147379ER: ATX male 20-pin edge mount connector**
- Material: nylon 66, UL-94VO • Material of post: tin-plated brass • Diameter of post: .045"

**147387ER: Housing Connector** • Material: nylon 66, UL-94VO

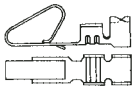
**147395ER: ATX power terminal pins** • Material: tin-plated brass

✳ **Prepackaged: order in increments of 10**

| Part No. | Description | L | W | H | Dia | Use With | 1 | 10 |
|---|---|---|---|---|---|---|---|---|
| 147379ER | 20-pin male connector | 1.7" | 0.4" | 0.6" | — | — | $.59 | $.53 |
| 147387ER | 20-pin housing connector | 1.7" | 0.4" | 0.8" | — | 147395ER | ✳ | .19 |
| 147395ER | Power terminal pin, female | .59" | — | — | .068" | 147387ER | ✳ | .12 |

## .156" (3.9mm) Center Crimp Pin

- Use with .156" housings (below)
- Material: brass/tin plated
- **Prepackaged: order in increments of 10 or 100**



| Part No. | Mfr. Cross Ref. | Pin Wire Gauge | 10 | 100 |
|---|---|---|---|---|
| 78318ER | JS-5001-T | 18-24 AWG | $.11 | $.08 |

## .156" (3.9mm) Center Housing Connectors

- Common to many power supplies carried by Jameco. Some power supplies (pgs 31-34) may require multiple connectors
- Housing material: nylon 66, UL94V-2
- Use with crimp pins, 78318ER, above

104731ER

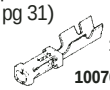
✳ **Prepackaged: order in increments of 10**

| Part No. | Mfr. Cross Ref. No. | Pins | 1 | 10 |
|---|---|---|---|---|
| 104715ER | LCH4 | 4 | ✳ | $.22 |
| 104731ER | LCH6 | 6 | .33 | .30 |

## .100" Non-Polarized Connector Housings & Crimp Pins

- Mates with .025" square post on pattern of .100" centers (male headers, see pg 31)
- Current rating: 1A
- Pin material: brass/tin plated
- Pin wire gauge: 22-26 AWG
- Plastic • Temperature rating: -55°C to +105°C
- **Prepackaged: order in increments of 10 or 100**

100802ER



100765ER

| Part No. | Mfr. Cross Ref. No. | Contacts | 10 | 100 |
|---|---|---|---|---|
| 100811ER | SCH2 | 2 | $.23 | $.21 |
| 157382ER | SCH3 | 3 | .24 | .22 |
| 100802ER | SCH4 | 4 | .25 | .23 |
| 163686ER | SCH5 | 5 | .27 | .25 |
| 103211ER | SCH6 | 6 | .31 | .27 |
| 103202ER | SCH8 | 8 | .35 | .29 |
| 103253ER | DCH8 (double row) | 8 | .59 | .53 |
| 157420ER | DCH10 (double row) | 10 | .69 | .62 |
| 103237ER | DCH16 (double row) | 16 | .79 | .71 |
| 103229ER | DCH20 (double row) | 20 | .99 | .89 |
| 100765ER | FCH1 | Female pin | .11 | .09 |
| 145357ER | MCH1 | Male pin | .15 | .135 |

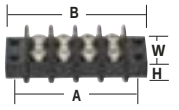
## European Terminal Blocks

- Number of poles: 12
- 1.2mm raised base
- Working temperature: 230˚F (110˚C)
- Material: Polyamide 66 (nylon 66), UL94V2, natural • Voltage: 600V
- Terminal insert: brass metal alloy, nickel plated
- Wire protector: stainless steel spring
- Screws: zinc plated, yellow chromed

215010ER

| Part No. | Prod. No. | Amps | AWG | 1 | 10 |
|---|---|---|---|---|---|
| 215010ER | PA8H | 20A | 12-22 | $1.79 | $1.59 |
| 215028ER | PA10H | 30A | 10-22 | 1.89 | 1.69 |
| 215036ER | PA12H | 35A | 10-22 | 2.59 | 2.29 |

## KULKA® 601 GP Series Double Row Terminal Blocks




188699ER

188672ER

- Base: general purpose phenolic; 150˚C
- Screws: #6-32, binder head, phillips-slot
- Terminals: brass plated • Width (W): 1.12"
- .437" (11 mm) centers • Height (H): .50"
- 1100Vrms; 20A ratings; for 14-16 AWG wires
- Open block design • UL/CSA/CE approved

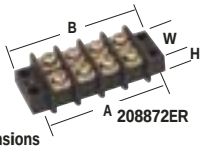
| Part Number | Product Number | Poles | Dimensions A" | B" | 1 | 10 |
|---|---|---|---|---|---|---|
| 188699ER | 601GP4 | 4 | 2.19 | 2.50 | $1.69 | $1.49 |
| 188672ER | 601GP8 | 8 | 3.94 | 4.25 | 2.95 | 2.75 |
| 188701ER | 601GP12 | 12 | 5.69 | 6.00 | 5.49 | 4.95 |

## Metric Double Row Terminal Blocks

- For detailed specs, please see www.Jameco.com

### *10A @ 600V*

- Screw size: M3.0
- Width (W): 19.5mm
- Height (H): 11.9mm




208872ER

| Part Number | Product Number | Poles | Dimensions A" | B" | 1 | 10 |
|---|---|---|---|---|---|---|
| 208856ER | GGE-10-4P | 4 | 47.5 | 55 | $.99 | $.89 |
| 208872ER | GGE-10-8P | 8 | 95 | 102.5 | 1.69 | 1.59 |
| 208881ER | GGE-10-12P | 12 | 123.5 | 131 | 2.79 | 2.49 |

### *20A @ 600V*

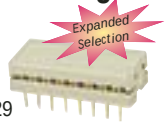
- Screw size: M3.5
- (W): 22.0mm • (H): 13.2mm

207571ER

| Part Number | Product Number | Poles | Dimensions A" | B" | 1 | 10 |
|---|---|---|---|---|---|---|
| 207538ER | GGE-20-4P | 4 | 54.5 | 63.5 | $1.39 | $1.25 |
| 207554ER | GGE-20-8P | 8 | 98.1 | 107.1 | 2.59 | 2.35 |
| 207571ER | GGE-20-12P | 12 | 141.7 | 150.7 | 3.59 | 3.19 |

## .100" IDC DIP Flat Cable Plugs

- Mates with standard 14, 16, 20, 24, 26, 28 & 40-pin DIP sockets with 0.1" spacing
- Plastic with gold-plated contacts
- Uses 28 AWG flat ribbon cable, pg 29
- Current rating: 1 amp




42673ER

| Part No. | Mfr. Cross Ref. No. | Width | Contacts | 1 | 10 |
|---|---|---|---|---|---|
| 42657ER | 609-14 — NEW | 0.3" | 14 | $.49 | $.40 |
| 42673ER | 609-16 — NEW | 0.3" | 16 | .55 | .45 |
| 104096ER | 609-20 — NEW | 0.3" | 20 | .69 | .62 |
| 42711ER | 609-40 — NEW | 0.6" | 40 | 1.15 | 1.05 |

## 0.2"-Pitch Power Connectors & Pins

**Connector & Housing Specifications:**
- Voltage rating: 250VAC (Mate-N-Lock 600VAC)
- Operating temperature: -55°C to +105°C

**Crimp Pin Specifications:**
- Material: tin plated brass • Current rating: 1.5 amps
- Wire size range : 18-24 AWG • Use tool P/N 99442ER, pg 60

### *For 5.25" Disk Drives and Power Supplies*

**42075ER & 42067ER Connector Housings:**
- Keyed mating connectors
- External key bar indicates pin 1

109145ER

117567ER

42729ER (Male for 42075ER)

42649ER (Fem. for 42067ER)

42075ER (M)

42067ER (F)

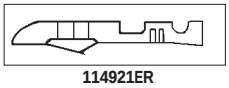
- See web for extraction tools, P/N 131887ER & 131879ER
- **Prepackaged: order in increments of 10 or 100**

| Part No. | Description | 10 | 100 |
|---|---|---|---|
| 109145ER | 4-pin M vert. PCB mtg | $.66 | $.59 |
| 117567ER | 4-pin M PCB mount, horiz. edge mount | .70 | .63 |
| 42075ER | 4-pin M housing | .12 | .11 |
| 42067ER | 4-pin F housing | .20 | .15 |
| 42729ER | M crimp pin for 42075ER | .10 | .07 |
| 42649ER | F crimp pin for 42067ER | .10 | .07 |

### *For 3.5" Disk Drives and Power Supplies*

114930ER

114999ER


114921ER

- **Prepackaged: order in increments of 10 or 100**

| Part No. | Description | 10 | 100 |
|---|---|---|---|
| 114930ER | 4-pin F housing | $.19 | $.17 |
| 114921ER | F crimp pin for 114930ER | .11 | .095 |

| Part No. | Description | 1 | 100 |
|---|---|---|---|
| 114999ER | 4-pin M rt. angle PCB mtg. | $.35 | $.31 |

## .093" Power Connector Kits

These assortment kits contain mating sets of housings and pins.
- Volt.: 250VAC
- Temperature. range: -40°C to +105°C

Plug / Receptacle
142228ER

Standard Crimp Contacts
Female / Male

**142181ER:** • 3 ea. 2-pin plugs & receptacles,8 ea. female & male contacts
**142201ER:** • 2 ea. 4-pin plugs & receptacles,10 ea. F & M contacts
**142228ER:** • 2 ea. 6-pin plugs & receptacles,14 ea. female and male contacts
**Includes:** Female & male tin-plated standard brass .010" pins; 18-22 AWG crimp size wire

| Part No. | Product No. | Current | 1 | 10 |
|---|---|---|---|---|
| 142181ER | 1545 | 12 Amps | $4.95 | $4.49 |
| 142201ER | 1490 | 9 Amps | 5.69 | 5.15 |
| 142228ER | 1261 | 9 Amps | 5.25 | 4.75 |

## .062" Power Connector Kit

Kit contains mating sets of housings and pins.
- Voltage: 250VAC • Current: 5A
- Temperature range: -40°C to +105°C

**Includes:** 3 ea. 2-pin plugs and 2-pin receptacles, 8 ea. male contacts and 8 ea. female contacts.

Standard Crimp Terminal
Male / Female
Conductor Crimp Area / Insulation Crimp Area
Inches (mm)

| Part No. | Product No. | Description | 1 | 10 |
|---|---|---|---|---|
| 142113ER | 1625-2 — NEW | Kit | $5.69 | $5.15 |

## .100" IDC Socket Connectors

***Double row polarized***

32563ER

- Mates with 2 rows of .025" Sq. or Dia. posts on patterns of .100" centers
- Industry standard IDC socket (plastic)
- Temp. rating: -55°C to +105°C • Current rating: 1A
- Use P/N 73251ER, pg 60: insulation displacement connection crimper for these connectors

| Part No. | Mfr. Cross Ref. No. | Contacts | 1 | 10 |
|---|---|---|---|---|
| 32491ER | S10 | 10 | $.29 | $.25 |
| 119466ER | S16 | 16 | .35 | .29 |
| 32563ER | S26 | 26 | .45 | .35 |
| 32643ER | S34 | 34 | .49 | .39 |
| 32678ER | S40 | 40 | .55 | .45 |
| 32707ER | S50 | 50 | .65 | .55 |

## .100" (2.5mm) Straight Male Headers with Standard Latch

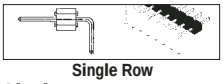
71829ER

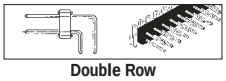
- 0.1" contact center • Double row • Mount vertical
- Keying slot • Use w/IDC socket connectors, above

| Part No. | Description | 1 | 10 |
|---|---|---|---|
| 117663ER | 10-pin — NEW | $1.29 | $1.16 |
| 71829ER | 20-pin — NEW | 1.39 | 1.25 |
| 71933ER | 26-pin — NEW | 1.49 | 1.25 |
| 72215ER | 50-pin — NEW | 1.85 | 1.65 |

Expanded Selection

## .100" Right Angle Male Headers


Single Row


Double Row

***Single Row***

| Part No. | Mfr. Cross Ref. No. | Contacts | 1 | 10 |
|---|---|---|---|---|
| 153728ER | RMH08 | 8 | $.45 | $.40 |
| 103270ER | RMH36 | 36 | .75 | .64 |

***Double Row***

| Part No. | Mfr. Cross Ref. No. | Contacts | 1 | 10 |
|---|---|---|---|---|
| 203916ER | 923806DR | 6 | $.55 | $.49 |
| 203932ER | 923810DR | 10 | .59 | .53 |
| 53575ER | 923820DR | 20 | .59 | .53 |
| 53604ER | 923840DR | 40 | .85 | .75 |
| 53612ER | 923850DR | 50 | .85 | .75 |
| 103413ER | 923872DR | 72 | 1.15 | .99 |
| 139563ER | 923880DR | 80 | 1.35 | 1.19 |

## .100" and 2mm Shorting Blocks

Closed / Open

- Mates to .025" square posts on .100" centers
- Shorting socket jumper to address or code strip line plugs
- Mate with male headers
- Pin material: phosphor bronze
- **Prepackaged: order in increments of 10 or 100**

| Part No. | Description | Color | 10 | 100 |
|---|---|---|---|---|
| 22023ER | Top open | Black | $.12 | $.09 |
| 19140ER | Top closed | Black | .12 | .09 |
| 112441ER | Top closed | Blue | .12 | .09 |

## .100" Shorting Block w/ Handle

- Mates w/ .100" male headers, above

**Ratings:** • Current: 3A
- Accessible test point in handle
- Contact resistance: 20mΩ max.

**Material:**
- Plastic: PBT, glass filled
- Contact: phosphor bronze
- **Prepackaged: order in increments of 10 or 100**

| Part No. | Description | 10 | 100 |
|---|---|---|---|
| 152670ER | .100" shorting block — NEW | $.19 | $.15 |

## .100" Straight Male Headers (Gold)

109567ER

109575ER

- Snap apart to fit your application
- Contact area: gold
- Contact material: phosphor bronze
- Current rating: 1 amp • Insulation: glass filled polyester
- Temp. range: -55°C to +120°C
- Solder to PC boards for instant plug-in access
- .025" square posts on a .100" x .100" matrix
- Use w/ crimp connector housing, pg 30

✳**Prepackaged: order in increments of 10**

**Single Row**

| Part No. | Mfr. Cross Ref. No. | Contacts | 1 | 10 |
|---|---|---|---|---|
| 108337ER | SMH02 | 2 ✳ | | $.16 |
| 109575ER | SMH03 | 3 ✳ | | .17 |
| 117559ER | SMH04 | 4 ✳ | | .17 |
| 153699ER | SMH06 | 6 ✳ | | .17 |
| 153701ER | SMH08 | 8 ✳ | | .20 |
| 103392ER | SMH10 | 10 ✳ | | .18 |
| 103376ER | SMH17 | 17 ✳ | | .16 |
| 103368ER | SMH20 | 20 ✳ | | .25 |
| 202825ER | SMH22 | 22 ✳ | | .225 |
| 103350ER | SMH25 | 25 ✳ | | .25 |
| 103341ER | SMH30 | 30 | .35 | .31 |
| 160881ER | SMH40 | 40 | .49 | .44 |

**Double Row**

| Part No. | Mfr. Cross Ref. No. | Contacts | 1 | 10 |
|---|---|---|---|---|
| 115027ER | 923804DS | 4 ✳ | | $.10 |
| 115035ER | 923806DS | 6 ✳ | | .18 |
| 109516ER | 923808DS | 8 ✳ | | .18 |
| 67820ER | 923810DS | 10 ✳ | | .18 |
| 109567ER | 923816DS | 16 | .55 | .49 |
| 203844ER | 923824DS | 24 | .70 | .65 |
| 53495ER | 923863DS | 26 | .63 | .57 |
| 53532ER | 923865DS | 40 | .59 | .53 |
| 53559ER | 923866DS | 50 | .60 | .55 |
| 103405ER | 923872DS | 72 | .85 | .75 |
| 117196ER | 923880DS | 80 | .90 | .80 |

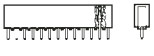
## .100" Low-Profile Straight Male Shrouded Headers

67811ER

- Features: UL recognized, CSA certified; .025" square post mates with sockets on .100" x .100" grid
- Contact: phosphor bronze, gold plated
- Material: glass filled polyester, gray, UL94V-0
- Use with IDC socket connectors, above

| Part No. | Description | 1 | 10 |
|---|---|---|---|
| 67811ER | 10-pin male shrouded header | $.39 | $.35 |
| 68179ER | 16-pin male shrouded header | .44 | .40 |
| 68371ER | 26-pin male shrouded header | .54 | .42 |
| 181104ER | 40-pin male shrouded header | .75 | .60 |

## .100" (2.5mm) Female Header Receptacles

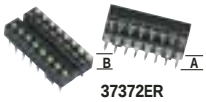


- Gold plated contacts • 0.1" contact center
- Top entry • Vertical mount

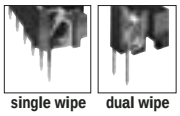
| Part No. | Type | Contacts | 1 | 10 |
|---|---|---|---|---|
| 70754ER | Single row | 8 | $.59 | $.53 |
| 200782ER | Single row | 12 | .79 | .59 |
| 70720ER | Double row | 16 | .89 | .79 |
| 70826ER | Double row | 20 | .99 | .89 |
| 105056ER | Double row — NEW | 30 | 1.09 | .98 |
| 163862ER | Double row | 34 | 1.05 | .94 |
| 111704ER | Double (Tin) | 40 | 1.29 | 1.15 |

COLOR CODE LEGEND... NEW SALE REFURBISHED CLOSEOUT

## Dual Wipe Solder Tail Low-Profile Sockets



37372ER


single wipe dual wipe

- Contact current: 1A
- Contact resistance: less than 5mΩ
- Dielectric withstanding voltage: 300Vrms
- Insulation resistance: greater than 1000MΩ
- Thru-hole lead length: .140" (A)
- Body height: .188" (B)
- **Prepackaged: order in increments of 10 or 100**

SALE

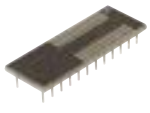
### *Single Wipe*

| Part No. | Mfr. Cross Ref. No. | Pins | Width (in.) | 10 | 100 |
|---|---|---|---|---|---|
| 51570ER | 8LP | 8 | 0.3 | $.063 | $.054 |
| 37161ER | 14LP | 14 | 0.3 | .081 | .063 |
| 37372ER | 16LP | 16 | 0.3 | .09 | .081 |
| 38113ER | 18LP | 18 | 0.3 | .099 | .084 |
| 38607ER | 20LP | 20 | 0.3 | .108 | .09 |
| 41110ER | 40LP | 40 | 0.6 | .171 | .153 |

### *Dual Wipe*

| Part No. | Mfr. Cross Ref. No. | Pins | Width (in.) | 10 | 100 |
|---|---|---|---|---|---|
| 112205ER | 8LPD | 8 | 0.3 | $.09 | $.08 |
| 112213ER | 14LPD | 14 | 0.3 | .10 | .075 |
| 112221ER | 16LPD | 16 | 0.3 | .13 | .115 |
| 112230ER | 18LPD | 18 | 0.3 | .16 | .14 |
| 112248ER | 20LPD | 20 | 0.3 | .153 | .13 |
| 112264ER | 24LPD | 24 | 0.6 | .171 | .144 |
| 112299ER | 28SLPD | 28 | 0.3 | .21 | .19 |
| 112272ER | 28LPD | 28 | 0.6 | .189 | .161 |
| 112301ER | 32LPD | 32 | 0.6 | .22 | .187 |
| 112310ER | 40LPD | 40 | 0.6 | .26 | .23 |

## ARIES Electronics (Europe) SOIC/SOJ to DIP Adapters


291979ER

295144ER

A cost effective means of upgrading to SOJ or SOIC without changing your PCB layout.

- Board material: 0.062" thick FR-4 with 1 oz. copper traces on both sides
- Brass alloy pins 1/2 hard with 200µ" (5.08µm) min. tin plating
- Operating temp.: 221˚F (105˚C)
- Suggested PCB hole size: 0.028" (0.71mm) Dia.

NEW

### *35000X Series*

- Center pins: 0.300" (7.62mm)

| Part No. | Product No. | Pins | L" x W" | 1 | 10 | 100 |
|---|---|---|---|---|---|---|
| 291207ER | 08-350000-10 | 8 | .400 x .460 | $6.59 | $5.59 | $4.50 |
| 291291ER | 14-350000-10 | 14 | .700 x .450 | 6.55 | 5.55 | 4.49 |
| 291514ER | 16-350000-10 | 16 | .800 x .450 | 6.55 | 5.59 | 4.49 |
| 291864ER | 18-350000-10 | 18 | .900 x .450 | 6.55 | 5.55 | 4.49 |
| 291910ER | 20-350000-10 | 20 | 1.0 x .450 | 6.55 | 5.55 | 4.49 |
| 291979ER | 24-350000-10 | 24 | 1.2 x .450 | 4.45 | 3.85 | 3.75 |

### *65000X Series*

- Center pins: 0.600" (15.24mm)

| Part No. | Product No. | Pins | L" x W" | 1 | 10 | 100 |
|---|---|---|---|---|---|---|
| 295144ER | 28-650000-10 | 28 | 1.4 x .700 | $10.15 | $8.71 | $8.45 |

## Machine Tooled Solder Tail Low Profile Sockets

- Contact plating: gold
- Tin-plated leads
- Contact current: 3A
- Multiple contact elements
- Material: beryllium copper or phosphor bronze
- Contact resistance: less than 5mΩ
- Dielectric withstanding voltage: 300Vrms
- Insulation resistance: greater than 1000MΩ
- Insulator: glass-filled polyester or glass-filled polyphenylene sulfide • Sleeve material: brass
- Thru-hole lead length: .177" (A) • Body height: .117" (B)

65584ER

| Part No. | Mfr. Cross Ref. No. | Pins | Width (in.) | 1 | 10 |
|---|---|---|---|---|---|
| 51625ER | 8MLP | 8 | 0.3 | $.25 | $.22 |
| 37196ER | 14MLP | 14 | 0.3 | .42 | .38 |
| 37401ER | 16MLP | 16 | 0.3 | .47 | .43 |
| 65584ER | 18MLP | 18 | 0.3 | .55 | .49 |
| 38623ER | 20MLP | 20 | 0.3 | .59 | .55 |
| 39351ER | 24MLP | 24 | 0.6 | .65 | .59 |
| 114411ER | 28SMLP | 28 | 0.3 | .85 | .75 |
| 40328ER | 28MLP | 28 | 0.6 | .83 | .75 |
| 105380ER | 32MLP | 32 | 0.6 | .95 | .85 |
| 41136ER | 40MLP | 40 | 0.6 | 1.19 | 1.05 |
| 42059ER | 48MLP | 48 | 0.6 | 1.29 | 1.18 |
| 200707ER | 64MLP | 64 | 0.9 | 1.35 | 1.25 |

## Machine Contact Single-In-Line Female Sockets

- Machine tooled
- Solder tail and wire wrap

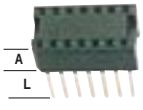
78641ER

| Part No. | Description | 1 | 10 |
|---|---|---|---|
| 102200ER | Single x 10-pin | $.25 | $.22 |
| 78641ER | Single x 30-pin | .89 | .80 |
| 175919ER | Single x 36-pin | 1.19 | 1.09 |
| 104053ER | Single x 30-pin WW3* | 1.95 | 1.75 |

* Lead length: .575" (3)

## Level 2 & 3 Wire Wrap Sockets

- Contact plating/leads: gold (WW) or tin (TWW); dual wipe
- Material: beryllium copper or phosphor bronze
- Contact current: 1A
- Contact resistance: less than 5mΩ
- Dielectric withstanding voltage: 300Vrms
- Insulation resistance: greater than 1000MΩ
- Insulator: glass-filled polyester or glass-filled polyphenylene sulfide • Sleeve material: brass
- Thru-hole lead length: .438" (L2); .638" (L3)
- Body height: .300" (A)



37233ER

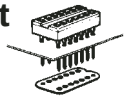
### *Gold (WW)*

| Part No. | Mfr. Cross Ref. No. | Pins | Width (in.) | 1 | 10 |
|---|---|---|---|---|---|
| 37479ER | 16WW2 | 16 | 0.3 | $1.75 | $1.59 |
| 38674ER | 20WW2 | 20 | 0.3 | 2.25 | 1.99 |
| 37233ER | 28WW2 | 28 | 0.6 | 1.49 | 1.35 |
| 40352ER | 28WW2 | 28 | 0.6 | 2.19 | 1.99 |
| 41187ER | 40WW2 | 40 | 0.6 | 3.15 | 2.80 |

### *Tin (TWW)*

| Part No. | Mfr. Cross Ref. No. | Pins | Width (in.) | 1 | 10 |
|---|---|---|---|---|---|
| 196841ER | 14TWW3 | 14 | 0.3 | $.82 | $.74 |
| 37217ER | 14TWW2 | 14 | 0.3 | 1.15 | 1.03 |
| 37436ER | 16TWW2 | 16 | 0.3 | .99 | .89 |
| 75379ER | 20TWW2 | 20 | 0.3 | 1.69 | 1.52 |
| 75424ER | 28TWW2 | 28 | 0.6 | 1.89 | 1.63 |
| 41179ER | 40TWW2 | 40 | 0.6 | 2.49 | 2.15 |

## Wire Wrap Socket I.D. Markers

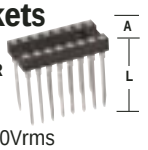


- Plastic
- Quick identification of pin numbers
- Slips onto socket before wrapping
- Can easily write location, part number or function

37145ER

| Part No. | Prod. No. | Pins | Width (in.) | 1 | 10 |
|---|---|---|---|---|---|
| 37145ER | 14ID | 14 | 0.3 | $.35 | $.31 |
| 40299ER | 28ID | 28 | 0.6 | .65 | .55 |

## Level 3 Machine Tooled Wire Wrap Sockets



37410ER

- Contact plating: gold
- Tin-plated leads
- Contact current: 3A
- Contact resistance: less than 5mΩ
- Dielectric withstanding voltage: 300Vrms
- Material: beryllium copper or phosphor bronze
- Insulation resistance: greater than 1000MΩ
- Sleeve material: brass • Body height: .115" (A)
- Thru-hole lead length: .515" (L3)
- Insulator: glass-filled polyester or glass-filled polyphenylene sulfide

| Part No. | Mfr. Cross Ref. No. | Pins | Width (in.) | 1 | 10 |
|---|---|---|---|---|---|
| 94473ER | 8MSWW3 | 8 | 0.3 | $.53 | $.46 |
| 62050ER | 14MSWW3 | 14 | 0.3 | .93 | .80 |
| 37410ER | 16MSWW3 | 16 | 0.3 | 1.09 | .93 |
| 38631ER | 20MSWW3 | 20 | 0.3 | 1.33 | 1.14 |
| 94490ER | 24MSWW3 | 24 | 0.6 | 1.60 | 1.38 |
| 40336ER | 28MSWW3 | 28 | 0.6 | 1.69 | 1.43 |
| 94502ER | 40MSWW3 | 40 | 0.6 | 2.66 | 2.28 |

## PLCC Solder Tail Sockets

71618ER

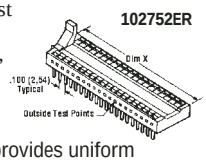
- Solder tail allows through-hole board patterns in .100" grid
- Accepts JEDEC type "A" plastic leaded chip (0.05" centers)
- Thru-hole lead length: .125" • Body height: .375"

| Part No. | Mfr. Cross Ref. No. | Pins | 1 | 10 |
|---|---|---|---|---|
| 71811ER | G1P432 | 32 | $.55 | $.48 |
| 71618ER | G1P444 | 44 | 1.15 | .99 |
| 71968ER | G1P468 | 68 | 1.15 | .99 |

## ARIES Electronics (Europe) Low Profile ZIF Sockets

A low cost solution for ZIF test socket requirements. It has a height of only .319" (8.10mm), and even with the handle in open position measures just .554" (14.07mm).

102752ER




- Strong rigid cast metal cam provides uniform action over entire contact area

| Part No. | Aries No. | Pins | Dim X | 1 | 10 |
|---|---|---|---|---|---|
| 102744ER | 28-526 | 28 | 1.64" | $5.49 | $4.99 |
| 102752ER | 40-526 | 40 | 2.24" | 6.95 | 6.39 |

## ARIES Electronics (Europe) Universal ZIF Sockets

- Solder directly to PCB or plug directly into IC socket
- Screw mounting holes for reliable operation
- Accepts .300" to .600" IC centers x .1" spacing

103991ER

| Part No. | Aries No. | Pins | 1 | 10 |
|---|---|---|---|---|
| 103991ER | 24-6554-10 | 24 | $7.49 | $6.79 |
| 104002ER | 28-6554-10 | 28 | 8.45 | 7.39 |
| 104011ER | 32-6554-10 | 32 | 9.95 | 8.49 |
| 104029ER | 40-6554-10 | 40 | 11.25 | 9.80 |

Expanded Selection

135394ER – Electrolytic

135271ER – LEDs

169578ER – Photocells

18294ER – Toy Motors

149649ER – Fans

55968ER – Spacers

81701ER – Cabinet

* LB grab bag quantities are approximate • Opened grab bags are not returnable • Use our 20-drawer cabinet w/ labels to store your components, P/N 81701ER, pg 62

Shaded in brown on this page you will find Jameco's nine most popular component Grab Bags. They are all individually bagged, and are combined to make up the Schwab's School Selection (P/N 163213ER) referenced towards the bottom of the page.

## Capacitors

| Part No. | Cross Ref. No. | Description | Wt. (lbs.) | 1 | 10 |
|---|---|---|---|---|---|
| 17857ER | GB100 | 200 asst. ceramic disc capacitors | 0.2 | $4.95 | $4.49 |
| 135335ER | GB100LB* | 1 lb. (813 pcs) asst. ceramic disc caps. | 1.0 | 12.95 | 11.49 |
| 17881ER | GB101 | 100 assorted mylar capacitors | 0.3 | 5.95 | 5.35 |
| 135458ER | GB101LB* | 1 lb. (440 pcs) asst. mylar capacitors | 1.0 | 14.95 | 13.49 |
| 17911ER | GB102 | 100 assorted electrolytic capacitors radial, axial, snap | 0.5 | 4.95 | 4.49 |
| 135394ER | GB102LB* | 1.5 lb. assorted (300 pcs) electrolytic caps. radial, axial, snap (photo above) | 1.5 | 12.95 | 11.49 |
| 17945ER | GB103 | 100 assorted tantalum capacitors (dipped epoxy and solid tubular) | 0.1 | 9.95 | 8.95 |

## Diodes, Transistors and Crystals/Oscillators

| Part No. | Cross Ref. No. | Description | Wt. (lbs.) | 1 | 10 | 25 |
|---|---|---|---|---|---|---|
| 17961ER | GB107 | 200 assorted diodes (zener, switching, silicon) | 0.1 | $5.95 | $5.35 | $4.79 |
| 18171ER | GB127 | 100 assorted transistors (NPN, PNP, power) | 0.1 | 5.95 | 5.35 | 4.79 |
| 114446ER | GB150 | 50 assorted crystals/oscillators | 0.2 | 7.95 | 6.95 | 6.25 |

## Trimmer and Single-Turn Potentiometers

| Part No. | Cross Ref. No. | Description | Wt. (lbs.) | 1 | 10 |
|---|---|---|---|---|---|
| 18075ER | GB113 | 100 asst. 1/10W to 1/8W trimmer pots (100Ω to 2MΩ values) | 0.1 | $6.95 | $6.25 |
| 18278ER | GB174 | 100 assorted 1/4W & 1/2W single turn pots (100Ω to 5MΩ assorted values) | 0.2 | 6.95 | 6.25 |
| 135407ER | GB174LB* | 1 lb. (295 pcs) 1/4W & 1/2W single turn pots (100Ω to 5MΩ assorted values) | 1.0 | 15.95 | 14.39 |

## Integrated Circuits and Sockets

| Part No. | Cross Ref. No. | Description | Wt. (lbs.) | 1 | 10 |
|---|---|---|---|---|---|
| 17996ER | GB108 | 100 assorted 7400, 74LS00 series (74, 74C, 74F, 74S, 74ALS, 74HC, 74HCT) | 0.2 | $6.95 | $6.25 |
| 135280ER | GB108LB* | 1 lb. (400 pcs) asst. 7400, 74LS00 series (74, 74C, 74F, 74S, 74ALS, 74HC, 74HCT) | 1.0 | 16.95 | 14.95 |
| 18024ER | GB109 | 100 asst. linear series (LM300, 500, 700, 7800, 7900 reg.) DIP, TO-3, TO-220 | 0.6 | 7.95 | 6.95 |
| 145242ER | GB109LB* | 2 lb. (300 pcs) asst. linear series (LM300, 500, 700, 7800, 7900 reg.) | 2.0 | 16.95 | 14.95 |
| 114964ER | GB171 | 100 asst. microprocessor series (micros, PALS, RAMs, PROMS, EPROMs) | 0.7 | 12.95 | 11.49 |
| 105620ER | GB120 | 100 asst. sockets (DIP IC, PGA) | 0.3 | 5.95 | 5.35 |
| 135386ER | GB120LB* | 1 lb. (260 pcs) assorted sockets (DIP, PGA, SIMM, SIP, DIN) | 1.0 | 12.95 | 11.49 |

## Surprise Computer Products Grab Bag

Best Bargain!

Various electronic components (capacitors, connectors, sockets, LEDs, resistors, diodes, ICs, transistors, pots, oscillators/resonators, inductors, crystals, switches), cables, power supply, transformer, fan, PC board, keyboard, misc. computer products.
• Weight is approximate

| Part No. | Cross Ref. No. | Description | Wt. (lbs.) | 1 | 10 |
|---|---|---|---|---|---|
| 18331ER | GB190 | Component/computer grab bag | 20-25 | $17.95 | $15.95 |

## LEDs and Displays

| Part No. | Cross Ref. No. | Description | Wt. (lbs.) | 1 | 10 | 25 |
|---|---|---|---|---|---|---|
| 18041ER | GB110 | 100 assorted sizes & colored LEDs (T1/T1 3/4 round and rectangular) | 0.1 | $6.95 | $6.29 | $5.65 |
| 18323ER | GB186 | 500 asst. sizes #18041ER LEDs | 0.3 | 19.95 | 17.95 | 15.95 |
| 135271ER | GB110LB* | 1 lb. (1900 pcs) asst. #18041ER LEDs | 1.0 | 44.95 | 40.95 | 38.95 |
| 18201ER | GB162 | 50 asst. sizes of colored displays (7-segment LED, modules, stick) | 0.5 | 6.95 | 5.95 | 5.35 |

## 1/4W, 1/2W Resistors and Photocells

| Part No. | Cross Ref. No. | Description | Wt. (lbs.) | 1 | 10 |
|---|---|---|---|---|---|
| 18104ER | GB116 | 200 asst. 1/4W resistors (5/10%) | 0.1 | $5.49 | $4.95 |
| 135351ER | GB116LB* | 1 lb. (2000 pcs) asst. 1/4W resistors | 1.0 | 14.95 | 13.49 |
| 18139ER | GB117 | 200 asst. 1/2W resistors (5/10%) | 0.2 | 5.95 | 5.35 |
| 169578ER | GB125 | 100 asst. values photocells | 0.2 | 12.95 | 11.49 |

## Switches, Toy Motors and Fans

| Part No. | Cross Ref. No. | Description | Wt. (lbs.) | 1 | 10 |
|---|---|---|---|---|---|
| 18235ER | GB165 | 50 assorted switches (toggle, pushbutton, rocker, slide) | 0.4 | $8.75 | $7.69 |
| 135378ER | GB165LB* | 1 lb. (135 pcs) asst. #18235ER switches | 1.0 | 18.95 | 16.95 |
| 18294ER | GB182 | 5 asst. toy DC motors (1.5–24V) | 1.1 | 5.49 | 4.95 |
| 149649ER | GB193 | 5 asst. AC/DC fans (photo above) | 4.5 | 8.75 | 7.69 |

## Hardware Assortments

• 2-56 • 4-40 • 6-32 • 8-32 • Screws • Plastic
• Nuts • Washers • Steel • Brass • Lock Washers • Aluminum

| Part No. | Cross Ref. No. | Description | Wt. (lbs.) | 1 | 10 | 25 |
|---|---|---|---|---|---|---|
| 171571ER | GB149* | 1 lb. (500 pcs) asst. types of screws, nuts, washers & lock washers | 1.0 | $5.95 | $5.35 | $4.79 |
| 171635ER | GB149LB* | 3 lbs. (1400 pcs) asst. types; same as P/N 171571ER (above) | 3.0 | 12.95 | 11.49 | 9.95 |

## Spacers and Standoffs Assortments

• Round • Hex • Aluminum • Brass • Steel • Plastic • Nylon

| Part No. | Cross Ref. No. | Description | Wt. (lbs.) | 1 | 10 | 25 |
|---|---|---|---|---|---|---|
| 166481ER | GB440 | 100 asst. 4-40 spacers/standoffs | 0.5 | $6.95 | $6.25 | $5.59 |
| 166490ER | GB632 | 100 asst. 6-32 spacers/standoffs | 0.5 | 6.95 | 6.25 | 5.59 |
| 55968ER | GB140 | 100 asst. 4-40, 6-32, 8-32 round/ hex, alum/brass/nylon spacers | 0.3 | 7.95 | 6.95 | 6.25 |
| 135423ER | GB140LB* | 1 lb. (310 pcs) same as P/N 55968ER | 1.0 | 17.95 | 15.95 | 13.95 |

## Schwab's School Selection

$57.89 Value

Jameco's nine most popular Grab Bags (highlighted on this page) are all individually bagged. North Dakota Engineer, Loren Schwab, recommended this selection of products as a standard item. He also recommended a 20-drawer component cabinet with labels (81701ER photo above) for storage.

What's your suggestion?

**Includes:** Ceramic and electrolytic capacitors, diodes, transistors, potentiometers, switches, LEDs, 1/4W resistors, spacers and standoffs.

| Part No. | Cross Ref. No. | Description | Wt. (lbs.) | 1 | 10 |
|---|---|---|---|---|---|
| 163213ER | GB197 | Schwab's School Selection | 3.3 | $39.95 | $34.95 |
| 81701ER | CAB20 | 20-drawer component cabinet | 4.7 | 15.95 | 13.95 |

## Surprise Component Grab Bag

Our Best Seller!

Axial and radial electrolytics, monolithic, dipped silver mica and mylar capacitors, connectors, sockets, thermistors, LEDs, resistor networks, diodes, ICs, standoffs, transistors, oscillator/resonators, inductors, crystals, resistors, pots and switches (1075 pcs).

| Part No. | Cross Ref. No. | Description | 1 | 10 | 25 |
|---|---|---|---|---|---|
| 135263ER | GB191LB* | 3 lbs. electronic components | $17.95 | $15.95 | $13.95 |

COLOR CODE LEGEND... NEW SALE REFURBISHED CLOSEOUT

## Kits Include the Most Popular Components and a Cabinet with Extra Drawers for Your Customized Expansion

81875ER (Capacitor Kit)

20-drawer component cabinet with every kit!

*Each Kit includes a 20-Drawer Component Cabinet (81701ER), 20 clear plastic drawers (85454ER), 20 clear dividers (85446ER), 30 adhesive labels for drawers to identify parts in kit, and all the Electronic Components listed in each kit.*

- Cabinet size: 6.0"L x 15.0"W x 7.9"H
- Drawer size: 5.5"L x 2.7"W x 1.5"H
- Cabinet: ABS-Black
- Weight: 4.6 to 6.4 lbs.
- Cabinet is wall-mountable or free standing

*Each Refill Package includes all Electronic Components listed in each kit; each type is separately packaged.*

Need a refill? Just call 1-800-831-4242

108433ER (Hardware Kit)

## 3/4-Watt 15 Turn Cermet Potentiometer Kit

SAVE $32

*Includes 100 pcs. (10 values) 3/4-watt Linear Taper Potentiometer*

| 10 each | 10 each | 10 each | 10 each | 10 each |
|---|---|---|---|---|
| 43P500Ω | 43P5kΩ | 43P500kΩ | 43P1kΩ | 43P50kΩ |
| 43P2kΩ | 43P20kΩ | 43P1MΩ | 43P10kΩ | 43P100kΩ |

| Part No. | Description | Wt. (lbs.) | 1 | 10 |
|---|---|---|---|---|
| 85041ER | 100 pcs. 15 turn Pot kit | 4.9 | $82.95 | $74.65 |

## Switch Assortment Kit

SAVE $52

*Includes 150 pcs. (15 types) Pushbutton, Slide, Dip & Toggle Switches*

| 10 each | 10 each | 10 each | 10 each | 10 each |
|---|---|---|---|---|
| 206-4 | JMT121 | JMT223 | MPC221 | MS103 |
| 206-8 | JMT123 | MPC121 | MPC223 | SDTX620K |
| JMT113 | JMT221 | MPC123 | MS102 | SW153 |

| Part No. | Description | Wt. (lbs.) | 1 | 10 |
|---|---|---|---|---|
| 85059ER | 150 pcs. Switch kit | 5.0 | $98.95 | $88.95 |

## Hardware and Spacer Assortment Kit

SAVE $30

*Includes 2300 pcs. (23 types) Spacers, Nuts, Flat, Tooth & Lock Washers and Slotted PH Screws*

| 100 each Spacers | 100 each Hex nuts | 100 each Flat | 100 each Int. tooth | 100 each Split lock | 100 each PH machine screws |
|---|---|---|---|---|---|
| — | 2-56 | — | — | #2 | 2-56 x 1/4, — |
| 4-40 | 4-40 | #4 | #4 | #4 | 4-40 x 1/4, 1/2 |
| 6-32 | 6-32 | #6 | #6 | #6 | 6-32 x 1/4, 1/2 |
| 8-32 | 8-32 | #8 | #8 | #8 | 8-32 x 1/2, — |

| Part No. | Description | Wt. (lbs.) | 1 | 10 |
|---|---|---|---|---|
| 108433ER | 2300 pcs. Hardware kit | 7.5 | $55.95 | $50.36 |
| 130497ER | Refill for 108433ER (2300 pcs.) | 2.7 | 39.95 | 35.95 |

## Ceramic Disc Capacitor Kit

SAVE $16

*Includes 520 pcs. (10 values) 50V ±20% Ceramic Disc Capacitors*

| 20 each | 20 each | 20 each | 100 each | 100 each |
|---|---|---|---|---|
| 10pF | 47pF | 470pF | .022µF | .01µF |
| 22pF | 100pF | .001µF | .047µF | .1µF |

| Part No. | Description | Wt. (lbs.) | 1 | 10 |
|---|---|---|---|---|
| 81859ER | 520 pcs. Ceramic Capacitor kit | 5.0 | $35.95 | $32.35 |
| 130232ER | Refill for 81859ER (520 pcs.) | 0.3 | 17.95 | 16.49 |

## Monolithic Ceramic Capacitor Kit

SAVE $10

*Includes 280 pcs. (10 types) 50V ±20% Monolithic Ceramic Capacitors*

| 10 each | 10 each | 10 each | 10 each | 100 each |
|---|---|---|---|---|
| 22pF | .001µF | .047µF | .47µF | .01µF |
| 100pF | .0022µF | .22µF | 1µF | .1µF |

| Part No. | Description | Wt. (lbs.) | 1 | 10 |
|---|---|---|---|---|
| 171475ER | 280 pcs. Monolithic Capacitor kit | 5.0 | $29.95 | $26.95 |
| 171483ER | Refill for 171475ER (280 pcs.) | 0.3 | 17.95 | 15.95 |

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## Radial Electrolytic Capacitor Kit

SAVE $11

*Includes 240 pcs. (15 values) ±20% Radial Electrolytic Capacitors*

| 10 each | 10 each | 20 each | 20 each | 20 each |
|---|---|---|---|---|
| 100µF @ 50V | 1000µF @ 16V | 1µF @ 50V | 3.3µF @ 50V | 22µF @ 50V |
| 220µF @ 25V | 2200µF @ 25V | 1µF @ 100V | 4.7µF @ 50V | 47µF @ 50V |
| 470µF @ 25V | 3300µF @ 25V | 2.2µF @ 50V | 10µF @ 50V | 100µF @ 25V |

| Part No. | Description | Wt. (lbs.) | 1 | 10 |
|---|---|---|---|---|
| 81867ER | 240 pcs. Radial Capacitor kit | 5.3 | $29.95 | $26.95 |
| 130331ER | Refill for 81867ER (240 pcs.) | 0.5 | 17.95 | 16.49 |

## Axial Electrolytic Capacitor Kit

SAVE $13

*Includes 140 pcs. (10 values) ±20% Axial Electrolytic Capacitors*

| 10 each | 10 each | 10 each | 20 each | 20 each |
|---|---|---|---|---|
| 47µF @ 50V | 220µF @ 50V | 1000µF @ 25V | 1µF @ 50V | 10µF @ 50V |
| 100µF @ 50V | 470µF @ 50V | 2200µF @ 16V | 4.7µF @ 50V | 2.2µF @ 50V |

| Part No. | Description | Wt. (lbs.) | 1 | 10 |
|---|---|---|---|---|
| 81875ER | 140 pcs. Axial Capacitor kit | 5.3 | $37.95 | $34.15 |
| 130340ER | Refill for 81875ER (140 pcs.) | 0.6 | 24.95 | 22.49 |

## Mylar Capacitor Kit

SAVE $11

*Includes 280 pcs. (10 values) 100V ±10% Mylar Capacitors*

| 10 each | 10 each | 10 each | 10 each | 100 each |
|---|---|---|---|---|
| .001µF | .022µF | .047µF | .47µF | .01µF |
| .0047µF | .033µF | .22µF | 1µF | .1µF |

| Part No. | Description | Wt. (lbs.) | 1 | 10 |
|---|---|---|---|---|
| 81883ER | 280 pcs. Mylar Capacitor kit | 5.1 | $37.95 | $34.15 |
| 130358ER | Refill for 81883ER (280 pcs.) | 0.3 | 19.95 | 17.95 |

## Dipped Tantalum Capacitor Kit

SAVE $29

*Includes 150 pcs. (15 values) ±20% Dipped Tantalum Capacitors*

| 10 each | 10 each | 10 each | 10 each | 10 each |
|---|---|---|---|---|
| .1µF @ 35V | 1µF @ 25V | 3.3µF @ 35V | 10µF @ 16V | 22µF @ 16V |
| .22µF @ 35V | 1µF @ 35V | 4.7µF @ 35V | 10µF @ 35V | 33µF @ 25V |
| .47µF @ 35V | 2.2µF @ 16V | 6.8µF @ 35V | 15µF @ 25V | 47µF @ 25V |

| Part No. | Description | Wt. (lbs.) | 1 | 10 |
|---|---|---|---|---|
| 81841ER | 150 pcs. Tantalum Capacitor kit | 4.8 | $79.95 | $71.95 |
| 130260ER | Refill for 81841ER (150 pcs.) | 0.3 | 59.95 | 53.95 |

## Transistor Assortment Kit

SAVE $7

*Includes 560 pcs. (20 types) NPN, PNP (High/Medium/Low Power) Transistors*

| 10 each | 10 each | 10 each | 10 each | 100 each |
|---|---|---|---|---|
| 2N2222A | 2N4401 | MJE3055T | TIP31A | 2N3904 |
| 2N2907A | 2N4403 | MPF102 | TIP32A | 2N3906 |
| 2N3053 | 2N5951 | MPSA06 | TIP102 | PN2222 |
| 2N3055 | 2N7000 | MPSA13 | TIP120 | PN2907 |

| Part No. | Description | Wt. (lbs.) | 1 | 10 |
|---|---|---|---|---|
| 82595ER | 560 pcs. Transistor kit | 5.1 | $82.95 | $74.65 |
| 130374ER | Refill for 82595ER (560 pcs.) | 0.4 | 69.95 | 62.95 |

## Diode Assortment Kit

SAVE $3

*Includes 420 pcs. (15 types) Zener, Switching and Silicon Rectifiers*

| 10 each | 10 each | 10 each | 10 each | 100 each |
|---|---|---|---|---|
| 1N270 | 1N4001 | 1N4735 | 1N5408 | 1N914 |
| 1N751 | 1N4007 | 1N4742 | C106B1 | 1N4004 |
| 1N3600 | 1N4733 | 1N5404 | KBP04M | 1N4148 |

| Part No. | Description | Wt. (lbs.) | 1 | 10 |
|---|---|---|---|---|
| 82587ER | 420 pcs. Diode kit | 5.0 | $39.95 | $35.95 |
| 130366ER | Refill for 82587ER (420 pcs.) | 0.3 | 25.95 | 21.95 |

## Kits Include the Most Popular Components and a Cabinet with Extra Drawers for Your Customized Expansion

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84996ER (LED Kit)

81832ER (Resistor kit)

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• Cabinet size: 6.0"L x 15.0"W x 7.9"H • Drawer size: 5.5"L x 2.7"W x 1.5"H • Weight: 4.6–6.4 lbs. • Cabinet: ABS-Black • Cabinet is wall-mountable or free standing

***Each Refill Package includes all Electronic Components listed in each kit; each type is separately packaged.***

## 4000 Series CMOS IC Kit

SAVE $26

***Includes 300 pcs. (25 types) CD4000 Series Integrated Circuits***

| 10 each | 10 each | 10 each | 10 each | 20 each |
|---|---|---|---|---|
| CD4015 | CD4024 | CD4051 | CD4093 | CD4001 |
| CD4016 | CD4027 | CD4069 | CD4511 | CD4011 |
| CD4017 | CD4040 | CD4070 | CD4538 | CD4013 |
| CD4020 | CD4046 | CD4071 | CD4543 | CD4049 |
| CD4023 | CD4050 | CD4081 | CD4584 | CD4066 |

| Part No. | Description | Wt. (lbs.) | 1 | 10 |
|---|---|---|---|---|
| **84970ER** | 300 pcs. 4000 series CMOS IC kit | 6.1 | **$79.95** | **$71.95** |
| **130403ER** | Refill for 84970ER (300 pcs.) | 1.4 | **58.95** | **52.95** |

## 7400 Series IC Kit

SAVE $89

***Includes 350 pcs. (30 types) 7400 (TTL) Integrated Circuits***

| 10 each | 10 each | 10 each | 10 each | 10 each | 20 each |
|---|---|---|---|---|---|
| 7402 | 7416 | 7438 | 74107 | 74157 | 7400 |
| 7405 | 7417 | 7447 | 74123 | 74160 | 7404 |
| 7408 | 7420 | 7470 | 74132 | 74174 | 7406 |
| 7410 | 7430 | 7485 | 74151 | 74175 | 7407 |
| 7414 | 7432 | 7495 | 74153 | 74279 | 7474 |

| Part No. | Description | Wt. (lbs.) | 1 | 10 |
|---|---|---|---|---|
| **84953ER** | 350 pcs. 7400 series IC kit | 6.2 | **$149.95** | **$134.95** |

## 74LS Series IC Kit

SAVE $52

***Includes 420 pcs. (35 types) 74LS (TTL) Integrated Circuits***

| 10 each | 10 each | 10 each | 10 each | 20 each |
|---|---|---|---|---|
| 74LS05 | 74LS73 | 74LS125 | 74LS193 | 74LS00 |
| 74LS10 | 74LS75 | 74LS139 | 74LS240 | 74LS02 |
| 74LS11 | 74LS85 | 74LS151 | 74LS244 | 74LS04 |
| 74LS14 | 74LS86 | 74LS155 | 74LS245 | 74LS08 |
| 74LS20 | 74LS90 | 74LS157 | 74LS273 | 74LS32 |
| 74LS30 | 74LS93 | 74LS174 | 74LS373 | 74LS74 |
| 74LS47 | 74LS123 | 74LS175 | 74LS374 | 74LS138 |

| Part No. | Description | Wt. (lbs.) | 1 | 10 |
|---|---|---|---|---|
| **84961ER** | 420 pcs. 74LS series IC kit | 6.7 | **$119.95** | **$107.95** |
| **130391ER** | Refill for 84961ER (420 pcs.) | 2.0 | **99.99** | **89.99** |

## Linear Series IC Kit

SAVE $57

***Includes 480 pcs. (40 types) Linear Series Integrated Circuits***

| 10 each | 10 each | 10 each | 10 each | 20 each |
|---|---|---|---|---|
| TL072CP | LM337T | LF412CN | ULN2803A | LM317T |
| TL074CN | LF353N | LMC555CN | NE5532 | LM324N |
| TL082CP | LF356N | LM556N | 7808T | LM339N |
| TL084CN | LM358N | LM723CN | 78L12 | LM741CN |
| MAX232CPE | LM386N-1 | LM1458N | 7815T | LM555CN |
| LM301N | LM386N-3 | LM1488N | 7905T | 7805T |
| LM308N | LM393N | DS1489N | 7912CT | 78L05 |
| LM311N | LF411CN | ULN2003A | 7915CT | 7812T |

| Part No. | Description | Wt. (lbs.) | 1 | 10 |
|---|---|---|---|---|
| **84988ER** | 480 pcs. Linear IC kit | 6.0 | **$182.95** | **$164.65** |
| **130411ER** | Refill for 84988ER (480 pcs.) | 1.3 | **169.95** | **145.95** |

## Low Profile IC Socket Kit

SAVE $10

***Includes 300 pcs. (10 types) Solder tail (Tin) IC Sockets***

| 10 each | 20 each | 20 each | 50 each | 50 each |
|---|---|---|---|---|
| 22LP | 18LP | 28LP | 8LP | 16LP |
| 24SLP | 24LP | 40LP | 14LP | 20LP |

| Part No. | Description | Wt. (lbs.) | 1 | 10 |
|---|---|---|---|---|
| **85075ER** | 300 pcs. LP IC Socket kit | 5.5 | **$36.95** | **$33.25** |

## 1/8-Watt Carbon Film Resistor Kit

***Includes 540 pcs. (30 values) 1/8-watt 5% Resistors***

| 10 each | 10 each | 10 each | 10 each | 10 each | 10 each | 50 each | 50 each |
|---|---|---|---|---|---|---|---|
| 10Ω | 330Ω | 1.5kΩ | 3.3kΩ | 15kΩ | 47kΩ | 100Ω | 4.7kΩ |
| 47Ω | 390Ω | 2Ω | 5.1kΩ | 22kΩ | 470kΩ | 220Ω | 10kΩ |
| 150Ω | 470Ω | 2.2kΩ | 5.6kΩ | 27kΩ | 1MΩ | 1kΩ | 100kΩ |
| 270Ω | 680Ω | 2.7kΩ | 6.8kΩ | 33kΩ | 10MΩ | | |

| Part No. | Description | Wt. (lbs.) | 1 | 10 |
|---|---|---|---|---|
| **108329ER** | 540 pcs. 1/8-watt Resistor kit | 4.9 | **$24.95** | **$22.49** |
| **108302ER** | Refill for 108329ER (540 pcs.) | 0.2 | **12.95** | **11.49** |

## 1/4-Watt Carbon Film Resistor Kit

***Includes 540 pcs. (30 values) 1/4-watt 5% Resistors***

| 10 each | 10 each | 10 each | 10 each | 10 each | 10 each | 50 each | 50 each |
|---|---|---|---|---|---|---|---|
| 10Ω | 330Ω | 1.2kΩ | 2.7kΩ | 15kΩ | 47kΩ | 100Ω | 4.7kΩ |
| 47Ω | 390Ω | 1.5kΩ | 3.3kΩ | 20kΩ | 470kΩ | 220Ω | 10kΩ |
| 150Ω | 470Ω | 2kΩ | 5.1kΩ | 22kΩ | 1MΩ | 1kΩ | 100kΩ |
| 270Ω | 680Ω | 2.2kΩ | 5.6kΩ | 33kΩ | 10MΩ | | |

| Part No. | Description | Wt. (lbs.) | 1 | 10 |
|---|---|---|---|---|
| **81832ER** | 540 pcs. 1/4-watt Resistor kit | 4.9 | **$27.95** | **$24.95** |
| **103165ER** | Refill for 81832ER (540 pcs.) | 0.2 | **12.95** | **11.49** |

## 1/2-Watt Carbon Film Resistor Kit

***Includes 540 pcs. (30 values) 1/2-watt 5% Resistors***

| 10 each | 10 each | 10 each | 10 each | 10 each | 10 each | 50 each | 50 each |
|---|---|---|---|---|---|---|---|
| 10Ω | 330Ω | 1.5kΩ | 3.3kΩ | 15kΩ | 47kΩ | 100Ω | 4.7kΩ |
| 47Ω | 390Ω | 2kΩ | 5.1kΩ | 22kΩ | 470kΩ | 220Ω | 10kΩ |
| 150Ω | 470Ω | 2.2kΩ | 5.6kΩ | 27kΩ | 1MΩ | 1kΩ | 100kΩ |
| 270Ω | 680Ω | 2.7kΩ | 6.8kΩ | 33kΩ | 10MΩ | | |

| Part No. | Description | Wt. (lbs.) | 1 | 10 |
|---|---|---|---|---|
| **107879ER** | 540 pcs. 1/2-watt Resistor kit | 5.1 | **$29.95** | **$26.95** |
| **107852ER** | Refill for 107879ER (540 pcs.) | 0.4 | **14.95** | **13.49** |

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| Jameco Part No. | Mfr. | Manufacturer Product Number | Output Voltage@Current (min-max) | Output Pwr. (W) | Input (VAC @ Hz) | Ripple & Noise (mV p-p)* | Certification | Pricing 1 | Pricing 10 |
|---|---|---|---|---|---|---|---|---|---|
| 300409ER | Astrodyne | OFM-5002 | +12V@0-0.42A | 5.04 | 85-264@47-440 | 150 | UL/CUL/TUV/CE | $30.39 | $28.50 |
| 300417ER | Astrodyne | OFM-5003 | +15V@0-0.33A | 4.95 | 85-264@47-440 | 150 | UL/CUL/TUV/CE | 30.39 | 28.50 |
| 300425ER | Astrodyne | OFM-5005 | +24V@0-0.23A | 5.52 | 85-264@47-440 | 240 | UL/CUL/TUV/CE | 30.39 | 28.50 |
| 300433ER | Astrodyne | OFM-0101 | +5V@0-2A | 10.0 | 85-264@47-440 | 50 | UL/CUL/TUV/CE | 36.09 | 34.20 |
| 300441ER | Astrodyne | OFM-0102 | +12V@0-0.85A | 10.2 | 85-264@47-440 | 180 | UL/CUL/TUV/CE | 36.09 | 34.20 |
| 300450ER | Astrodyne | OFM-0103 | +15V@0-0.67A | 10.05 | 85-264@47-440 | 180 | UL/CUL/TUV/CE | 36.09 | 34.20 |
| 300468ER | Astrodyne | OFM-0105 | +24V@0-042A | 10.08 | 85-264@47-440 | 240 | UL/CUL/TUV/CE | 36.09 | 34.20 |
| 300476ER | Astrodyne | OFM-1501 | +5V@0-3A | 15.0 | 85-264@47-440 | 60 | UL/CUL/TUV/CE | 40.85 | 38.00 |
| 300484ER | Astrodyne | OFM-1502 | +12V@0-1.25A | 15.0 | 85-264@47-440 | 150 | UL/CUL/TUV/CE | 40.85 | 38.00 |
| 300492ER | Astrodyne | OFM-1503 | +15V@0-1.0A | 15.0 | 85-264@47-440 | 150 | UL/CUL/TUV/CE | 40.85 | 38.00 |
| 300505ER | Astrodyne | OFM-1505 | +24V@0-0.63A | 15.12 | 85-264@47-440 | 240 | UL/CUL/TUV/CE | 40.85 | 38.00 |
| 300521ER | Astrodyne | OFM-0202 | +12V@0-1.8A | 21.6 | 85-264@47-440 | 150 | UL/CUL/TUV/CE | 43.69 | 40.85 |
| 300530ER | Astrodyne | OFM-0203 | +15V@0-1.4A | 21.0 | 85-264@47-440 | 150 | UL/CUL/TUV/CE | 43.69 | 40.85 |
| 300513ER | Astrodyne | OFM-0201 | +5V@0-4.4A | 22.0 | 85-264@47-440 | 50 | UL/CUL/TUV/CE | 43.69 | 40.85 |
| 300548ER | Astrodyne | OFM-0205 | +24V@0-0.92A | 22.08 | 85-264@47-440 | 240 | UL/CUL/TUV/CE | 43.69 | 40.85 |
| 212345ER | Mean Well | PS-25-24 | +24V@0-1A | 24.0 | 85-264@47-63 | 240 | UL/CUL/TUV/CE | 18.95 | 17.95 |
| 212353ER | Mean Well | PS-25-5 | +5V@0-5A | 25.0 | 85-264@47-63 | 80 | UL/CUL/TUV/CE | 17.95 | 16.95 |
| 148603ER | Mean Well | PS-25-12 | +12V@0-2.1A | 25.2 | 85-264@47-63 | 100 | UL/CUL/TUV/CE | 18.95 | 17.95 |
| 190086ER | Artesyn | NFS40-7608 | +5V@0-3A; +12V@0-2A; -12V@0-0.35A | 43.2 | 85-264@47-440 | 50 | UL/CSA/VDE/CE | 46.39 | 41.75 |
| 88401ER | Mean Well | PT45B | +5V@0.4-3A; +12V@0.2-2A; -12V@0-0.3A | 45.0 | 90-264@47-440 | 50 | UL/CUL/TUV/CE | 29.95 | 23.09 |
| 148638ER | Mean Well | PS-65-12 | +12V@0-5.2A | 62.4 | 90-264@47-440 | 100 | UL/CUL/TUV/CE | 29.95 | 25.29 |
| 216733ER | Mean Well | PT-65B | +5V@0.4-5.5A;+12V@0.2-2.5A;-12V@0-0.5A | 63.5 | 90-264@47-440 | 50 | UL/CUL/TUV/CE | 36.95 | 28.59 |
| 148646ER | Mean Well | PS-65-24 | +24V@0-2.7A | 64.8 | 90-264@47-440 | 100 | UL/CUL/TUV/CE | 29.95 | 25.29 |
| 194896ER | Mean Well | PD65B | +5V@0.4-3.5A; +24V@0.2-2A | 65.5 | 90-264@47-440 | 50 | UL/CUL/TUV/CE | 34.95 | 26.39 |

## Special Offers at Great Savings – 90-Day Warranty

Expanded Selection

| Jameco Part No. | Mfr. | Manufacturer Product No. | Output Voltage@Current (min-max) | Output Pwr.(W) | Input (VAC @ Hz) | Size (L"xW"xH") | Mounting Holes (L"xW"xDia.") | Ripple & Noise (mV p-p)* | Load Reg. (±%)* | Line Reg. (±%)* | Certification | Pricing 1 | Pricing 10 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 173374ER | AUTEC | UPS20-2002† | +5V@1A; +12V@1.5A | 23.0 | 115/230@50-50 | 5.0x3.0x1.1 | 4.6x2.6x0.16 | 50 | 2.0 | 1.0 | UL/CSA/TUV | $7.95 | $7.15 |
| 166967ER | Super Mac | U002512010 | +5V@2.5A; +12V@1A | 24.5 | 100-240@50-60 | 3.7x2.5x1.2 | — | 50 | — | 1.0 | UL/CSA/TUV | 14.29 | 12.86 |
| 196824ER | Encad | U006612010 | +5.2V@3A;+24V@2A | 65.0 | 90-250@50-60 | 6.3x3.9x1.5 | — | — | — | — | UL/CUL/TUV | 15.95 | 14.36 |
| 171731ER | Delta | DPS-60MPB | +3.3V@0.8-8A; +5V@1-9A; | 65.0 | 90-270@47-63 | 5.8x3.3x1.4 | — | 50 | 2.0 | 2.0 | UL/CUL/TUV | 6.95 | 5.89 |

* Primary Output †Hold-Up Time: 20ms

*For complete specifications and our entire listing of power supplies, please visit our website @ www.Jameco.com*

## Enclosed Switching Power Supplies

Expanded Selection

| Jameco Part No. | Manufacturer | Manufacturer Product Number | Output Voltage@Current (min-max) | Output Pwr. (W) | Input (VAC @ Hz) | Ripple & Noise (mV p-p)* | Certification | Pricing 1 | Pricing 10 |
|---|---|---|---|---|---|---|---|---|---|
| 123246ER | Mean Well | S-25-5 | +5V@0-5A | 25.0 | 85-264@47-63 | 50 | UL/TUV/CE | $39.95 | $32.10 |
| 123254ER | Mean Well | S-25-12 | +12V@0-2.1A | 25.2 | 85-264@47-63 | 100 | UL/TUV/CE | 39.95 | 32.10 |
| 123271ER | Mean Well | S-25-24 | +24V@0-1.1A | 26.4 | 85-264@47-63 | 100 | UL/TUV/CE | 39.95 | 32.10 |
| 123297ER | Mean Well | S-40-12 | +12V@0-3.5A | 42.0 | 85-264@47-63 | 100 | UL/CUL/TUV/CE | 44.95 | 38.60 |
| 123334ER | Mean Well | S-60-12 | +12V@0-5A | 60.0 | 85-264@47-63 | 120 | UL/CUL/TUV/CE | 53.95 | 41.50 |
| 123342ER | Mean Well | S-60-15 | +15V@0-4A | 60.0 | 85-264@47-63 | 150 | UL/CUL/TUV/CE | 53.95 | 41.50 |
| 123351ER | Mean Well | S-60-24 | +24V@0-2.5A | 60.0 | 85-264@47-63 | 150 | UL/CUL/TUV/CE | 53.95 | 41.50 |
| 123457ER | Mean Well | D-60A | +5V@0.3-4A; +12VDC@0.2-3A | 56.0 | 85-264@47-63 | 75 | UL/CUL/TUV/CE | 54.95 | 44.10 |
| 123465ER | Mean Well | D-60B | +5VDC@.3-3A; +24VDC@0.2-1.8A | 58.0 | 85-264@47-63 | 75 | UL/CUL/TUV/CE | 54.95 | 44.10 |
| 147045ER | Mean Well | Q-60B | +5V@0.5-5.5A; +12V@0.1-2A; -5V@0-0.5A; -12V@0-0.5A | 60.0 | 85-264@47-63 | 100 | UL/CUL | 59.95 | 49.90 |
| 123385ER | Mean Well | S-100F-12 | +12V@0-8.5A | 102.0 | 88-132/176-264@47-63 | 125 | UL/TUV/CE | 66.95 | 49.90 |
| 201970ER | Mean Well | S-100F-24 | +24V@0-4.5A | 108.0 | 88-132/176-264@47-63 | 150 | UL/TUV/CE | 66.95 | 49.90 |
| 132370ER | Mean Well | Q-120D | +5V@2-8A; 24V@0.2-2A; +12V@0.2-2A; -12V@0.2-1A | 124.0 | 88-132/176-264@47-63 | 80 | UL/CUL/TUV/CE | 79.95 | 63.79 |
| 173411ER | Mean Well | SP-150-15† | +15V@0-10A | 150.0 | 85-264@47-63 | 100 | UL/CUL/TUV/CE | 91.95 | 82.76 |
| 173420ER | Mean Well | SP-150-12 | +12V@0-16.7A | 150.0 | 85-264@47-63 | 100 | UL/CUL/TUV/CE | 91.95 | 82.76 |
| 173403ER | Mean Well | SP-150-24† | +24V@0-6.3A | 150.0 | 85-264@47-63 | 150 | UL/CUL/TUV/CE | 91.95 | 82.76 |
| 123422ER | Mean Well | S-150-12 | +12V@0-12.5A | 150.0 | 88-132/176-264@47-63 | 180 | UL/CUL/TUV/CE | $69.95 64.79 | 58.30 |
| 123431ER | Mean Well | SP-150-15 | +15V@0-10A | 150.0 | 88-132/176-264@47-63 | 180 | UL/CUL/TUV/CE | 64.79 | 58.30 |
| 202032ER | Mean Well | S-150-27 | +27V@0-5.6A | 151.2 | 88-132/176-264@47-63 | 240 | UL/CUL/TUV/CE | $69.95 64.79 | 58.30 |
| 167345ER | Mean Well | S-150-48 | +48V@0-3.2A | 153.6 | 88-132/176-264@47-63 | 240 | UL/CUL/TUV/CE | $69.95 64.79 | 58.30 |
| 123449ER | Mean Well | S-150-24 | +24V@0-6.5A | 156.0 | 88-132/176-264@47-63 | 240 | UL/CUL/TUV/CE | 69.95 | 58.30 |
| 194773ER | Mean Well | SP-200-12† | +12V@0-16.7A | 200.4 | 85-264@47-63 | 100 | UL/CUL/TUV/CE | 102.95 | 92.66 |

* Primary Output † PFC (Power factor correction)

## Enclosed Switching Power Supplies (continued)

| Jameco Part No. | Manufacturer | Manufacturer Product Number | Output Voltage@Current (min-max) | Output Pwr. (W) | Input (VAC @ Hz) | Ripple & Noise (mV p-p)* | Certification | Pricing 1 | Pricing 10 |
|---|---|---|---|---|---|---|---|---|---|
| 137656ER | Mean Well | S-240-24 | +24V@0-10A | 240.0 | 88-132/176-264@47-63 | 180 | UL/CUL/TUV/CE | $109.95 | $98.95 |
| 167337ER | Mean Well — NEW | S-240-48 | +48V@0-5A | 240.0 | 88-132/176-264@47-63 | 240 | UL/CUL/TUV/CE | 109.95 | 93.46 |
| 137390ER | Mean Well | SP-300-12† | +12V@0-24A | 288.0 | 88-264@47-63 | 150 | UL/CUL/TUV/CE | 181.95 | 159.70 |
| 207204ER | Mean Well — NEW | S-320-12 | +12V@0-25A | 300.0 | 88-132/176-264@47-63 | 150 | UL/CUL | 124.95 | 112.80 |
| 137402ER | Mean Well | SP-300-24† | +24V@0-12.5A | 300.0 | 88-264@47-63 | 150 | UL/CUL/TUV/CE | 181.95 | 159.70 |
| 196656ER | Mean Well | S-320-24 | +24V@0-12.5A | 300.0 | 88-132/176-264@47-63 | 150 | UL/CUL | 124.95 | 112.80 |
| 161980ER | Mean Well — NEW | SP-300-48 | +48V@0-6.25A | 300.0 | 88-264@47-63 | 240 | UL/CUL/TUV/CE | 181.95 | 154.66 |
| 147053ER | Mean Well | SP500-24† | +24V@0-20A | 480.0 | 100-240@50-60 | 240 | UL/CUL/TUV/CE | 249.95 | 216.10 |
| 190713ER | Mean Well | PSP-500-12† | +12V@0-41.5A | 498.0 | 90-264@47-63 | 150 | UL/CUL/TUV/CE | 269.95 | 232.09 |
| 190721ER | Mean Well | PSP-500-24† | +24V@0-20.8A | 499.2 | 90-264@47-63 | 150 | UL/CUL/TUV/CE | 269.95 | 229.46 |

† PFC (Power factor correction) * Primary Output

## Special Offers at Great Savings – 90-Day Warranty

| Jameco Part No. | Mfr. | Manufacturer Product No. | Output Voltage@Current (min-max) | Output Pwr.(W) | Input (VAC @ Hz) | Size (L"xW"xH") | Mounting Holes (LxWxDia.) | Ripple & Noise (mV p-p)* | Load Reg. (±%)* | Line Reg. (±%)* | Certification | Pricing 1 | Pricing 10 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 199515ER | Globtek | RT-3S150-24 | 24V@6.5A | 150 | 115/230@50-60 | 7.9x4.3x1.9 | 6.8x3.8x0.14 | 100 | 5.0 | 5.0 | UL/CE | $59.95 | $47.95 |

* Primary Output

## 13.8VDC Precision Regulated Linear Power Supply

- Output: 13.8VDC @ 4A
- Input voltage: 115VAC @ 60Hz
- Illuminated rocker switch
- Fuse protected
- Heavy duty 5'8" 3-prong power cord
- Short-circuit protection
- Output terminals: see web for mating cigarette plugs and mating banana terminal plugs

| Part No. | Model No. | Output Terminals | Size (L" x W" x H") | Wt. (lbs.) | 1 | 10 |
|---|---|---|---|---|---|---|
| 135845ER | RPS1204 | Banana term/cig. plug | 6.7 x 5.2 x 3.2 | 5.5 | $29.95 | $26.95 |

## 276-Watt Precision Regulated Linear Power Supply

- Output current: 20A
- Illuminated rocker switch
- Short circuit protection
- Output terminals: see web for mating cigarette plugs and page 68 for mating banana terminal plugs
- Fuse protected • Output: 13.8 VDC
- Input voltage: 115VAC @ 60Hz

**Includes:** heavy duty 5'8" 3-prong power cord

| Part No. | Model No. | Output Terminals | Size (L" x W" x H") | Wt. (lbs.) | 1 | 10 |
|---|---|---|---|---|---|---|
| 138675ER | 52-192012 | Banana | 10.0 x 7.8 x 4.4 | 15.9 | $109.95 | $99.95 |

## 3 & 15-Watt DC-to-DC Converters

- Short-circuit/over-current protection
- One-year warranty

Mean Well is an ISO-9001 Certified Company

Fig. 1

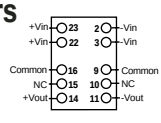
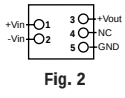



Fig. 2



155918ER

| Part Number | Product Number | Fig. | Power (W) | Input Voltage Range (VDC) | Output Voltage (VDC) | Output Current (mA) | Ripple p-p (mV) | Pins | Size L" x W" x H" | Pricing 1 | Pricing 10 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 155918ER | DCW03A05* | 1 | 3 | 9-18 | +5/-5 | 300 | 100 | 8 | 1.2 x 0.7 x 0.5 | $20.95 | $18.89 |
| 161701ER | DCW03A12* | 1 | 3 | 9-18 | +12/-12 | 125 | 100 | 8 | 1.3 x 0.8 x 0.5 | 20.95 | 18.89 |
| 155715ER | SKE15A-05 | 2 | 15 | 9-18 | +5 | 3000 | 50 | 5 | 2.0 x 2.0 x 0.43 | 34.95 | 31.49 |
| 155707ER | SKE15A12 | 2 | 15 | 9-18 | +12 | 1,250 | 60 | 4 | 2.0 x 2.0 x 0.4 | 34.95 | 31.19 |

* Regulated

## 25-Watt DC-to-DC Converters

- Input voltage: 9.2VDC-18VDC
- Built-in EMI filter, low ripple noise
- Size: 3.9"L x 3.9"W x 1.5"H
- Voltage output adjustable
- Input/output connector: screw terminals
- Mating conn.: P/N 103587ER or 103595ER, see web

175812ER

| Part No. | Product No. | Output | 1 | 10 |
|---|---|---|---|---|
| 175661ER | SD-25A-5 — NEW | +5V@5.0A | $40.95 | $30.99 |
| 175804ER | SD25A12 | +12V@2.1A | 37.95 | 34.16 |
| 175812ER | SD25A24 | 24V @ 1.1A | 40.95 | 30.99 |

# Wall Adapters

## AC-to-AC Regulated Wall Adapters

• **Input: 120VAC @ 60Hz**

**We will change any power plug (see web) on any wall adapter listed (100 pc. minimum).**

### 2-Wire AC Input

| Part Number | Manufacturer | Product Number | Output Rating Voltage (VAC) | Output Rating Current (mA) | Output Plug ID x OD Plug Type F = female | Size (+0%-20%) H" x W" x D" | Case Color | Output Cord Length | Weight (lbs.) | Agency Approvals | Pricing 1 | Pricing 10 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 210729ER | ITE Power Supply | MKA35090300 | 9 | 300 | 2.1mm x 5.5mm F | 2.2 x 1.7 x 1.5 | Black | 6' | 0.4 | UL/CUL | $3.95 | $3.55 |
| 100061ER | Jameco | AC905F1 | 9 | 500 | 2.1mm x 5.5mm F | 2.7 x 1.9 x 1.7 | Black | 6' | 0.6 | UL/CUL | 4.59 | 4.13 |
| 112336ER | Jameco | AC915F5 | 9 | 1500 | 2.5mm x 5.5mm F | 2.5 x 2.2 x 2.0 | Black | 6' | 0.9 | UL | 9.95 | 8.96 |
| 101258ER | Jameco | 41A12-500 | 12 | 500 | 2.1mm x 5.5mm F | 2.5 x 2.0 x 1.7 | Black | 6' | 0.6 | UL/CSA | 4.59 | 4.15 |
| 10081ER | Leader Electronics | AC1210F1 | 12 | 1000 | 2.1mm x 5.5mm F | 2.6 x 2.4 x 2.0 | Black | 6' | 0.7 | UL/CSA | 5.19 | 4.67 |
| 100167ER | Jameco | AC1210F5 | 12 | 1000 | 2.5mm x 5.5mm F | 3.2 x 2.4 x 2.0 | Black | 6' | 0.7 | UL/CSA | 5.19 | 4.67 |

COLOR CODE LEGEND… NEW SALE REFURBISHED CLOSEOUT

## AC-to-AC Regulated Wall Adapters

We will change any power plug (see web) on any wall adapter listed (100 pc. minimum).

• Input: 120VAC @ 60Hz

### 2-Wire AC Input (continued)

| Part Number | Manufacturer | Product Number | Output Rating Voltage (VAC) | Output Rating Current (mA) | Output Plug ID x OD Plug Type F = female; M = male | Size (H" x W" x D") | Case Color | Output Cord Length | Weight (lbs.) | Agency Approvals | Pricing 1 | Pricing 10 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 185439ER | Ault | T5182200-A020G | 18 | 1850 | 2.1mm x 5.5mm right angle F | 3.3 x 2.7 x 2.2 | Black | 6' | 1.7 | UL/CSA | $7.49 | $6.74 |
| 87581ER | Jameco | AC2405F1 | 24 | 500 | 2.1mm x 5.5mm F | 2.5 x 2.2 x 1.9 | Black | 6' | 0.9 | UL/CSA | 5.19 | 4.67 |
| 140599ER | Jameco | AC2410F1 | 24 | 1000 | 2.1mm x 5.5mm F | 3.0 x 2.2 x 1.9 | Black | 6' | 1.2 | UL/CSA | 8.95 | 8.09 |
| 10102ER | Jameco | AC2410M3 | 24 | 1000 | 3.5mm M | 3.0 x 2.2 x 1.9 | Black | 6' | 1.2 | UL/CSA | 7.95 | 7.19 |
| 176356ER | Jameco | WP573024 | 24 | 1250 | 2.1mm x 5.5mm F | 3.4 x 2.7 x 2.2 | Black | 5'8" | 1.6 | UL/CSA | 10.49 | 9.45 |

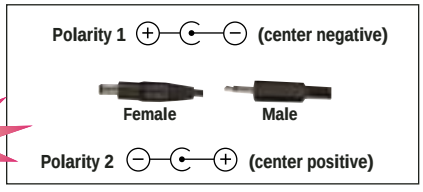
164101ER

171301ER

## AC-to-DC Regulated Wall Adapters

We will change any power plug (see web) on any DC wall adapter listed (100 pc. minimum).

Expanded Selection




### 2-Wire AC Input – Switching Regulated

| Part Number | Manufacturer | Product Number | Output Rating Voltage (VDC) | Output Rating Current (mA) | Output Plug ID x OD Plug Type / Polarity F = female | Input VAC @ Hz | Size (H" x W" x D") | Case Color | Output Cord Length | Weight (lbs.) | Agency Approvals | Pricing 1 | Pricing 10 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 249244ER | Horizon — NEW | DFU1250/G9760 | 12 | 1500 | 2.1mm x 5.5mm F **2** | 108-132@50-60 | 3.3 x 2.7 x 2.2 | Black | 6' | 0.4 | UL/CUL | $14.95 | 13.49 |
| 168487ER | Mean Well — NEW | KWM020188 | 18 | 1000 | 2.1mm x 5.5mm F **2** | 100-240@50-60 | 2.9 x 1.9 x 1.6 | Black | 6' | 0.4 | UL/CUL | 17.95 | 16.16 |

### 2-Wire AC Input – Linear Regulated

| Part Number | Manufacturer | Product Number | Output Rating Voltage (VDC) | Output Rating Current (mA) | Output Plug ID x OD Plug Type / Polarity F = female | Input VAC @ Hz | Size (H" x W" x D") | Case Color | Output Cord Length | Weight (lbs.) | Agency Approvals | Pricing 1 | Pricing 10 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 164101ER | Jameco | DCR505F12 | 5 | 500 | 2.1mm x 5.5mm F **2** | 120@60 | 2.8 x 2.0 x 1.6 | Black | 6' | 0.6 | UL/CSA | $9.95 | $8.96 |
| 171301ER | Imitation | JOD48U08 | 5 | 1000 | 2.1mm x 5.5mm F **2** | 120@60 | 3.1 x 2.9 x 2.0 | Black | 6' | 1.0 | UL/CUL | 10.95 | 9.89 |
| 168604ER | ITE Power Supply | RWP480505 | 5 | 1000 | 2.5mm x 5.5mm F **2** | 120@60 | 3.3 x 2.2 x 1.9 | Black | 6' | 1.2 | UL/CSA | 10.25 | 9.45 |
| 190529ER | NOMA | AD9123 | 9 | 250 | 2.5mm x 5.5mm right angle F **2** | 120@60 | 2.5 x 2.0 x 1.6 | Black | 12' | 0.5 | UL/CSA | 6.49 | 5.85 |
| 162996ER | Jameco | DCR1205F12 | 12 | 500 | 2.1mm x 5.5mm F **2** | 120@60 | 3.2 x 2.2 x 1.9 | Black | 6' | 0.9 | — | 9.95 | 8.96 |
| 170245ER | Jameco | DCR1210F12 | 12 | 1000 | 2.1mm x 5.5mm F **2** | 120@60 | 3.2 x 2.3 x 2.0 | Black | 6' | 1.2 | — | 13.95 | 12.59 |

## AC-to-DC Unregulated Wall Adapters

### 2-Wire AC Input – Unregulated

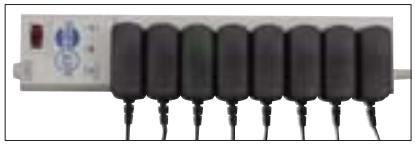
| Part Number | Manufacturer | Product Number | Output Rating Voltage (VDC) | Output Rating Current (mA) | Output Plug ID x OD Plug Type / Polarity F = female | Size (H" x W" x D") | Case Color | Output Cord Length | Weight (lbs.) | Agency Approvals | Pricing 1 | Pricing 10 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 112070ER | Jameco | DC502F5 | 5 | 225 | 2.5mm x 5.5mm F **2** | 1.9 x 2.2 x 2.0 | Black | 7' | 0.3 | UL/CSA | $7.29 | $6.59 |
| 101266ER | Jameco — NEW | DC605F12 | 6 | 500 | 2.1mm x 5.5mm F **2** | 2.4 x 1.9 x 1.6 | Black | 6' | 0.4 | UL/CSA | 4.29 | 3.86 |
| 133891ER | Horizon | DC903F1 | 9 | 300 | 2.1mm x 5.5mm F **2** | 2.0 x 1.5 x 1.5 | Black | 6' | 0.4 | UL/CSA | 3.95 | 3.56 |
| 140636ER | Jameco | DC904F5 | 9 | 400 | 2.5mm x 5.5mm F **2** | 2.6 x 2.0 x 2.0 | Black | 6' | 0.6 | UL/CSA | 4.19 | 3.79 |
| 170270ER | Panasonic | PQLV1 | 9 | 500 | 2.1mm x 5.5mm right angle F **1** | 2.7 x 1.9 x 1.8 | Gray | 6' | 0.6 | UL/CSA | 4.49 | 4.04 |
| 100853ER | Jameco | DC905F12 | 9 | 500 | 2.1mm x 5.5mm F **2** | 2.5 x 1.9 x 1.7 | Black | 6' | 0.6 | UL/CSA | 4.95 | 4.46 |
| 236937ER | Horizon — NEW | DCU090050A | 9 | 500 | 2.5mm x 5.5mm right angle F **2** | 2.5 x 2.0 x 1.7 | Black | 6' | 0.5 | UL/CSA | 5.79 | 5.21 |
| 100175ER | Jameco | DC906F5 | 9 | 600 | 2.5mm x 5.5mm F **2** | 2.7 x 2.0 x 1.7 | Black | 6' | 0.6 | UL/CSA | 5.49 | 4.75 |
| 100888ER | Everglow | DDU090100 | 9 | 1000 | 2.1mm x 5.5mm F **2** | 2.6 x 2.4 x 2.0 | Black | 6' | 1.0 | UL/CSA | 7.95 | 7.16 |
| 158043ER | Jameco | DC1202F12R | 12 | 200 | 2.1mm x 5.5mm right angle F **2** | 2.2 x 1.7 x 1.5 | Black | 6' | 0.4 | UL/CSA | 4.49 | 4.04 |
| 114825ER | Jameco | DC1205ST | 12 | 500 | Connector end may vary | 2.5 x 2.0 x 1.7 | Black | 6' | 0.6 | CUL | 4.75 | 4.35 |
| 102496ER | ITE Power Supply | DC1205F12 | 12 | 500 | 2.1mm x 5.5mm F **2** | 2.5 x 1.9 x 1.6 | Black | 6' | 0.6 | UL/CSA | 5.25 | 4.16 |
| 131300ER | Jameco | SCP41 | 12 | 500 | 2.1mm x 5.5mm right angle F **2** | 2.6 x 1.9 x 1.7 | Beige | 6' | 0.6 | UL/CSA | 5.49 | 4.94 |
| 102277ER | Jameco | DC1205F5 | 12 | 500 | 2.5mm x 5.5mm F **2** | 2.5 x 2.1 x 1.7 | Black | 6' | 0.6 | UL/CSA | 5.19 | 4.67 |
| 100870ER | Jameco | DC1210F1 | 12 | 1000 | 2.1mm x 5.5mm F **2** | 3.1 x 2.4 x 2.0 | Black | 6' | 0.9 | UL/CSA | 8.19 | 7.37 |
| 105478ER | Superworld | DC1210F5 | 12 | 1000 | 2.5mm x 5.5mm F **2** | 3.1 x 2.4 x 2.0 | Black | 6' | 1.0 | UL/CSA | 7.49 | 6.74 |
| 199566ER | Superworld — NEW | WK1201A01DN | 12 | 1000 | 2.5mm x 5.5mm F **2** (with RF filter) | 3.2 x 2.2 x 2.0 | Black | 6' | 1.2 | UL/CSA | 6.95 | 6.26 |
| 196779ER | Jameco | D1212950 | 12 | 1200 | 2.5mm x 5.5mm F **2** | 3.0 x 2.3 x 1.9 | Black | 6' | 1.0 | UL/CUL | 8.79 | 7.91 |
| 101291ER | KCS Industries | DC1215F5 | 12 | 1500 | 2.5mm x 5.5mm F **2** | 3.4 x 2.7 x 2.2 | Black | 6' | 1.5 | UL | 10.39 | 9.35 |
| 190001ER | Jameco | DC1505F1 | 15 | 500 | 2.1mm x 5.5mm F **2** | 2.3 x 2.4 x 1.9 | Black | 6' | 0.8 | UL/CSA | 6.49 | 5.84 |
| 155803ER | Jameco | DC1506F11 | 15 | 600 | 2.1mm x 5.5mm F **1** | 2.9 x 2.3 x 1.9 | Black | 6' | 1.0 | UL/CSA | 8.95 | 8.06 |
| 203502ER | Jameco | 48150900 | 15 | 900 | 2.5mm x 5.5mm F **2** | 2.6 x 2.2 x 1.9 | Black | 6' | 1.0 | UL/CSA | 6.95 | 6.25 |
| 191652ER | Jameco | DC1510F12 | 15 | 1000 | 2.1mm x 5.5mm F **2** | 3.3 x 2.2 x 1.9 | Black | 6' | 1.0 | UL/CSA | 9.59 | 8.65 |

## AC-to-DC Unregulated Wall Adapters

**2-Wire AC Input – Unregulated (continued)**

| Part Number | Manufacturer | Product Number | Output Rating Voltage (VDC) | Output Rating Current (mA) | Output Plug ID x OD Plug Type / Polarity F = female; M = male | Size H" x W" x D" | Case Color | Output Cord Length | Weight (lbs.) | Agency Approvals | Pricing 1 | Pricing 10 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 162317ER | Jameco | DC1605F1 | 16 | 500 | 2.1mm x 5.5mm F **2** | 2.2 x 2.4 x 1.9 | Black | 6' | 0.8 | UL/CSA | $7.95 | $6.95 |
| 102285ER | Jameco | DC2404F1 | 24 | 400 | 2.1mm x 5.5mm F **2** | 3.0 x 2.3 x 2.0 | Black | 6' | 0.9 | UL/CUL | 7.95 | 7.19 |
| 191556ER | Jameco NEW | DC2405F5 | 24 | 500 | 2.5mm x 5.5mm F **2** | 3.1 x 2.3 x 1.9 | Black | 6' | 1.0 | UL/CUL | 8.95 | 8.06 |
| 196322ER | 3Com | P48240600A020G | 24 | 600 | 2.1mm x 5.5mm F **2** | 3.3 x 2.3 x 1.9 | Black | 6' | 1.1 | UL/CSA | 8.95 | 8.06 |
| 168495ER | Jameco | DC2408F1 | 24 | 800 | 2.1mm x 5.5mm F **2** | 2.9 x 1.9 x 1.6 | Black | 6' | 0.4 | UL/CUL/TUV | 10.95 | 9.86 |
| 220960ER | Jameco | DFU240100 | 24 | 1000 | 2.1mm x 5.5mm F **1** | 3.4 x 2.7 x 2.2 | Black | 6' | 1.6 | UL/CUL | 13.89 | 12.95 |

## Slim Line Switching Wall Adapters



***Now you can use all of the outlets in your power strip!***

SLIM LINE switching wall adapters are compact in size, lightweight, and the perfect power solution in all those applications where space is critical. Unlike traditional wall adapters, these do not block unused outlets on wall plates, power strips and surge protectors. And their high efficiency satisfies requirements for minimizing power losses.

- Output connector: 2.1mm x 5.5mm F2 (center positive)
- Input voltage: 100 – 240VAC@47-63Hz • Agency approvals: UL/CUL/TUV/CE
- 2-wire AC input • Output cord length: 6' • Color: black

| Part No. | Product No. | Output Rating Volts (VDC) | Output Rating Current (mA) | Dimensions (H"xW"xD") | Weight (lbs.) | Pricing 1 | Pricing 10 |
|---|---|---|---|---|---|---|---|
| 252700ER | S08AB050050 | 5.0 | 500 | 2.5x1.1x1.7 | 0.2 | $10.49 | $9.52 |
| 252718ER | S08AB050100 | 5.0 | 1000 | 2.5x1.1x1.7 | 0.2 | 10.95 | 9.94 |
| 252726ER | S08AB050150 | 5.0 | 1500 | 2.5x1.1x1.7 | 0.2 | 11.49 | 10.43 |
| 252751ER | S08AD090050 | 9.0 | 500 | 2.5x1.1x1.7 | 0.2 | 10.95 | 9.94 |
| 252806ER | S08AE120050 | 12.0 | 500 | 2.5x1.1x1.7 | 0.2 | 10.95 | 9.94 |
| 252822ER | S15AE120100 | 12.0 | 1000 | 2.9x1.3x2.2 | 0.3 | 11.95 | 10.85 |
| 252831ER | S15AE120140 | 12.0 | 1250 | 2.9x1.3x2.2 | 0.3 | 12.95 | 11.76 |
| 254756ER | S15AF150080 | 15.0 | 800 | 2.9x1.3x2.2 | 0.2 | 11.95 | 10.85 |
| 252857ER | S08AH240025 | 24.0 | 250 | 2.5x1.1x1.7 | 0.2 | 10.95 | 9.94 |

## Automobile Power Plug & Cord Assembly

- Screw assembly with strain relief
- Plugs directly into cigarette lighter
- Accepts .25" x 1.25" fuse

**124759ER:** 3' cord pigtail end

115001ER

124759ER

| Part No. | Description | 1 | 10 |
|---|---|---|---|
| 115001ER | W/ 5A/250VAC fuse | $1.95 | $1.65 |
| 124759ER | W/ 3A/250VAC fuse & 3' cord | 1.89 | 1.72 |

## Male Power Jacks

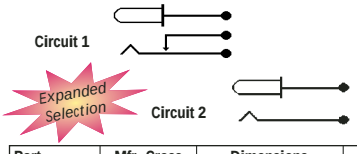
- Dimensions do not include barrel

Type 1

Type 2

Type 3

Type 4




| Terminals | Code |
|---|---|
| Solder eyelet | A |

| Mounting | Code |
|---|---|
| PCB | B |
| Panel & PCB | C |
| Cable | D |
| Panel | E |

| Part Number | Mfr. Cross Ref. No. | Dimensions H x W x D (mm) | Type/ Mount | Circuit/ Terminal | Mating Plug (below) | Pricing 1 | Pricing 10 |
|---|---|---|---|---|---|---|---|
| *2.1 mm Male Jacks* | | | | | | | |
| 101178ER | PP014 | 10.9 x 9.0 x 14.5 | 1/B | 1/A | 2.1 mm F | $.49 | $.44 |
| 137672ER | PP013 | 10.9 x 9.0 x 14.5 | 1/B | 2/A | 2.1 mm F | .49 | .44 |
| 151589ER | DPJ-02IA | 13.0 x 12.6 Dia. | 4/C | 1/A | 2.1 mm F | 1.09 | .93 |
| 151554ER | DPJ-026 | 15.1 x 8.0 Dia. | 2/C | 1/A | 2.1 mm F | 1.49 | 1.25 |
| 159610ER | PJ1014A | 35.8 x 12.6 Dia. | 3/D | 2/A | 2.1 mm F | 1.49 | 1.25 |
| *2.5 mm Male Jacks* | | | | | | | |
| 101186ER | PP014A | 11.0 x 9.0 x 14.5 | 1/B | 1/A | 2.5 mm F | $.59 | $.53 |
| 151562ER | DPJ-026A | 15.1 x 8.0 Dia. | 2/C | 1/A | 2.5 mm F | 1.49 | 1.24 |
| 159505ER | PJ1015A | 35.8 x 12.6 Dia. | 3/D | 2/A | 2.5 mm F | 1.39 | 1.25 |

## Female Power Plugs

- Solder eyelets 1mm diameter
- Threaded screw-on housing (strain relief)
- Use with AC/DC wall adapters • Shield crimp tabs
- Use 24 AWG 2 conductor wire, P/N 100280ER, to make custom length power cables, pg 29

Strain Relief

| Part Number | Mfr. Cross Ref. No. | Description Plug ID x OD (mm) | Dimensions (mm) S (shaft) x L x ID (strain relief) | 1 | 10 |
|---|---|---|---|---|---|
| 28759ER | PP049 | 2.1 x 5.5 (P205) | 8.5 x 41.4 x 4.6 (black) | $.59 | $.49 |
| 28767ER | PP109 | 2.5 x 5.5 (P206) | 10.1 x 45.4 x 4.3 (black) | .59 | .49 |

## AC-to-DC Regulated Switching Table-Top Power Supplies

- Regulated and unregulated outputs (see "Output Plug")
- Input voltage: **Regulated:** 100-240VAC @ 50-60Hz **Unregulated:** 120VAC @ 50-60Hz

**Polarity 1** (center negative) **Polarity 2** (center positive)

Female

DIN M

SALE

205911

| Power | Part Number | Mfr. ▲ | Mfr. Cross Ref. No. ▲ | Output Pwr (W) | Output Volts (VDC)/ Current (A) | Input VAC@Hz | Output Plug/Connector ID x OD/Plug Type/Polarity F = female; M = male | Pwr. Ind. | Color | Size (L" x W" x H") | Cords* (DC/AC) | Weight (lbs.) | Agency Approvals | Pricing 1 | Pricing 10 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **2-Wire AC Input – Regulated Switching** | | | | | | | | | | | | | | | |
| 18-25W | 195805ER | Horizon | DCR920F12 | 18 | +9/2.0 | 100-240@50-60 | 2.1mm x 5.5mm F **2** | Yes | Black | 4.2 x 2.6 x 1.4 | 6'/6' | 0.9 | UL/CUL/TUV/CE | $26.95 | $24.26 |
| 18-25W | 195768ER | Horizon | DCR920F52 | 18 | +9/2.0 | 100-240@50-60 | 2.5mm x 5.5mm F **2** | Yes | Black | 4.3 x 2.6 x 1.4 | 6'/6' | 0.9 | UL/CUL/TUV/CE | 22.95 | 20.66 |
| 18-25W | 205911ER | Delta | ADP-25HB† | 25 | +30/0.83 | 100-125@50-60 | 2.1mm x 5.5mm F **2** | No | Black | 3.5 x 2.4 x 1.2 | 6'/7' | 1.1 | UL/CUL | 17.49 | 15.75 |
| 18-25W | 196138ER | DVE NEW | DSA-0283A | 23 | +5/1, +12/1.49 -5/.43 | 100-240@47-63 | 5-pin DIN M | No | Black | 4.9 x 2.7 x 1.5 | 6'* | 0.8 | UL/CSA/TUV | 16.95 | 15.25 |

* Use P/N 38050ER for AC cord ▲ Manufacturer and Manufacturer Cross Reference Number may vary except for Mean Well, Phihong, GlobTek and Jameco † Wall-mount

COLOR CODE LEGEND... NEW SALE REFURBISHED CLOSEOUT

## AC-to-DC Regulated Switching Table-Top Power Supplies (Continued)

- Regulated and unregulated outputs (see "Output Plug")
- Input voltage: **Regulated:** 100-240VAC @ 50-60Hz
  **Unregulated:** 120VAC @ 50-60Hz

Polarity 1 (center negative) Female Polarity 2 (center positive)

DIN M 155213ER 172064ER 206455ER

| Power | Part Number | Mfr. ▲ | Mfr. Cross Ref. No. ▲ | Output Pwr (W) | Output Volts (VDC)/ Current (A) | Input VAC@Hz | Output Plug/Connector ID x OD/Plug Type/Polarity F = female; M = male | Pwr. Ind. | Color | Size (L" x W" x H") | Cords* (DC/AC) | Weight (lbs.) | Agency Approvals | Pricing 1 | Pricing 10 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **3-Wire AC Input – Regulated Switching** | | | | | | | | | | | | | | | |
| 10-60 Watts | **196218ER** | GlobeTek | GT210891005T3 | 10 | +5/2.0 | 120-240@50-60 | 2.1mm x 5.5mm F **2** | No | Black | 3.4 x 1.9 x 1.3 | 6'/* | 0.4 | UL/CUL/TUV/CE | **$19.95** | **$17.95** |
| | **221786ER** | Mean Well | U24S102-P2JU | 15 | +5/3.0 | 90-240@50-60 | 2.5mm x 5.5mm F **2** | No | Black | 4.2 x 2.6 x 1.2 | 6'/6' | 0.8 | UL/CSA/TUV/CE | **23.95** | **21.55** |
| | **228996ER** | Phihong | PSA31U-050 | 20 | +5/4.0 | 90-264@47-63 | 2.1mm x 5.5mm F **2** | No | Black | 4.5 x 2.4 x 1.4 | 6'/* | 0.5 | UL/CUL/TUV/CE | **26.95** | **24.25** |
| | **216531ER** | Mean Well | KWM12F-P2MU | 18 | +12/1.5 | 100-240@47-63 | 2.5mm x 5.5mm F **2** | No | Black | 4.0 x 1.9 x 1.5 | 6'/6' | 0.4 | UL/CUL/TUV/CE | **26.95** | **24.25** |
| | **155213ER** | Mean Well | P40A-3P2JU | 40 | +12/3.3 | 100-240@50-60 | 2.1mm x 5.5mm F **2** | Yes | Black | 5.5 x 2.3 x 1.5 | 6'/6' | 0.7 | UL/CUL/TUV | **35.95** | **32.36** |
| | **155230ER** | Mean Well | SPU50-3 | 60 | +12/5.0 | 100-240@47-63 | 2.1mm x 5.5mm F **2** | Yes | Black | 5.6 x 2.9 x 1.5 | 6'/6' | 1.3 | UL/CSA/TUV | **49.95** | **44.95** |
| | **206455ER** | Ault | SC100 | 25 | +16/1.56 | 100-240@50-60 | 2.5mm x 5.5mm F **2** | No | Black | 4.2 x 2.6 x 1.5 | 6'/* | 1.2 | UL/CUL/TUV/CE | **17.95** | **16.16** |
| | **181884ER** | Mean Well | P40A6P2J | 40 | +24/1.66 | 100-240@50-60 | 2.1mm x 5.5mm F **2** | Yes | Black | 4.1 x 2.6 x 1.4 | 6'/6' | 0.7 | UL/TUV/CE | **35.95** | **32.36** |
| | **161605ER** | Mean Well | SPU50-6 | 60 | +24/2.5 | 100-240@47-63 | 2.1mm x 5.5mm F **2** | Yes | Black | 5.6 x 2.9 x 1.6 | 1'9"/6' | 1.3 | UL/CSA/TUV | **44.95** | **39.95** |
| | **172064ER** | Mean Well | SPU50-9 | 60 | +48/1.25 | 100-240@47-63 | 2.1mm x 5.5mm F **2** | Yes | Black | 5.6 x 2.9 x 1.7 | 6'/6' | 1.3 | UL/CSA/TUV | **44.95** | **40.49** |
| | **203043ER** | Ault | SC200 | 32 | +5/4, +12/1 | 100-240@50-60 | 5-pin DIN M | No | Black | 5.0 x 3.0 x 1.6 | 6'/* | 1.3 | UL/CSA/CE | **19.95** | **17.95** |
| | **190959ER** | Mean Well | P25A13D-R1B | 26 | +5/2.5, +12/0.8 -12/0.3 | 100-240@47-63 | 5-pin DIN M | Yes | Black | 4.1 x 2.6 x 1.4 | 6'/6' | 1.1 | CUL/TUV/CE | **32.95** | **29.69** |
| | **215132ER** | Mean Well | U45T302-R1BU | 42 | +5/5, +12/1 -12/0.3 | 90-264@47-63 | 5-pin DIN M | Yes | Black | 5.8 x 3.1 x 1.8 | 4'/6' | 1.4 | UL/CUL/TUV/CE | **49.95** | **44.99** |

* Use P/N 38050ER for AC cord ▲ Manufacturer and Manufacturer Cross Reference Number may vary except for Mean Well, Phihong, GlobTek and Jameco

*More Power Supplies @ www.Jameco.com*

## AC-to-DC Regulated Linear Table-Top Power Supplies

Polarity 1 (center negative) Female Polarity 2 (center positive)

DIN M Stripped

| Power | Part Number | Mfr. ▲ | Mfr. Cross Ref. No. ▲ | Output Power (W) | Output Volts (VDC)/ Current (A) | Input VAC@Hz | Output Plug/Connector ID x OD/Plug Type/Polarity F = female; M = male | Pwr. Ind. | Color | Size (L" x W" x H") | Cords* (DC/AC) | Weight (lbs.) | Agency Approvals | Pricing 1 | Pricing 10 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **2-Wire AC Input – Regulated Linear** | | | | | | | | | | | | | | | |
| 5-24 Watts | **211060ER** | Pacific Data | DV-51AAT | 5 | +5/1 | 120@60 | 2.1mm x 5.5mm rt angle F **2** | No | Black | 3.4 x 2.7 x 2.2 | 6'6"/6' | 1.7 | UL/CSA | **$11.95** | **$10.76** |
| | **103173ER** | Jameco | JE9100 | 9 | +5/0.6, ±12/0.25 | 120@50-60 | 5-pin DIN M | No | Black | 4.8 x 3.1 x 2.5 | 6'/6' | 2.3 | UL/CSA | **20.95** | **18.89** |
| | **173665ER** | Skynet | DND-3005 | 15 | +30/0.5 | 120-127@60 | 2.5mm x 5.5mm F **2** | No | Black | 3.0 x 2.5 x 2.2 | 5'9"/3'2" | 1.4 | UL/CUL | **13.29** | **11.99** |
| | **174852ER** | Jameco | DCR2410F52 | 24 | +24/1 | 120@60 | 2.5mm x 5.5mm F **2** | No | Black | 4.4 x 3.0 x 2.5 | 6'/6' | 2.7 | — | **14.95** | **12.95** |
| **3-Wire AC Input – Regulated Linear** | | | | | | | | | | | | | | | |
| | **154624ER** | Motorola | 5712-305-4C3E† | 5.6 | +5/0.5, ±12/0.13 | 120@60 | 8-pin mini DIN M | No | Black | 2.9 x 2.6 x 1.9 | 6'/* | 1.2 | UL/CSA | **$12.95** | **$10.39** |

† Wall-Mount * Use P/N 38050ER, for AC cord ▲ Manufacturer and Manufacturer Cross Reference Number may vary except for Mean Well, Phihong, GlobTek and Jameco

## AC-to-DC Unregulated Table-Top Power Supplies

| Power | Part Number | Mfr. ▲ | Mfr. Cross Ref. No. ▲ | Output Power (W) | Output Volts (VDC)/ Current (A) | Input VAC@Hz | Output Plug/Connector ID x OD/Plug Type/Polarity F = female | Pwr. Ind. | Color | Size (L" x W" x H") | Cords (DC/AC) | Weight (lbs.) | Agency Approvals | Pricing 1 | Pricing 10 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **2-Wire AC Input – Unregulated Linear** | | | | | | | | | | | | | | | |
| 12-29 Watts | **136565ER** | Jameco | DDC1210P | 12 | +12/1.0 | 120@60 | Stripped & Tinned | No | Black | 3.2 x 2.2 x 1.9 | 6'/6' | 1.2 | — | **$13.95** | **$12.56** |
| | **140880ER** | Jameco | DC1215ST | 18 | +12/1.5 | 120@60 | Stripped & Tinned | No | Black | 3.1 x 2.1 x 1.9 | 6'/6' | 1.5 | UL | **12.95** | **11.66** |
| | **143714ER** | — | DC1220F1 | 24 | +12/2.0 | 120@60 | 2.1mm x 5.5mm F **2** | No | Black | 3.8 x 2.8 x 2.3 | 6'/6' | 2.2 | — | **14.95** | **13.46** |
| | **143722ER** | Jameco | DC1220F5 | 24 | +12/2.0 | 120@60 | 2.5mm x 5.5mm F **2** | No | Black | 3.8 x 2.8 x 2.3 | 6'/6' | 2.2 | — | **12.95** | **11.69** |
| | **139096ER** | Jameco | DC2412F1 | 29 | +24/1.2 | 120@60 | 2.1mm x 5.5mm F **2** | No | Black | 4.4 x 3.1 x 2.6 | 6'/6' | 2.5 | — | **14.95** | **13.49** |
| **3-Wire AC Input – Unregulated Linear** | | | | | | | | | | | | | | | |
| | **157956ER** | Everglow | EFU120150 | 18 | +12/1.5 | 120@60 | 2.5mm x 5.5mm F **2** | No | Black | 3.4 x 2.7 x 2.2 | 6'/6' | 2.0 | UL | **$10.95** | **$9.86** |

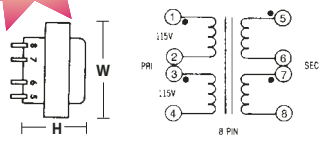
▲ Manufacturer and Manufacturer Cross Reference Number may vary except for Mean Well, Phihong, GlobTek and Jameco

## Split-Bobbin Power Transformers

Expanded Selection

Non-concentrically wound with primaries and secondaries side-by-side providing low capacitive coupling.

- Primary: 115/230VAC, 50-60Hz
- PC terminal pin spacing for accurate placement

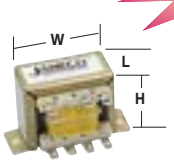



| Part Number | Mfr. Cross Ref. No. | Triad Cross | Input Voltage | VA Cap | Individual Output | Parallel Output | Series Output | Dimensions L" | W" | H" | Wt. (lbs.) | Pricing 1 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 102533ER | XFR1205SB | FS12500 | 115/230 | 6.3 | 6.3V @ .50A | 6.3V @ 1.0A | 12.6VCT @ .50A | 1.31 | 1.62 | 1.30 | 0.4 | $7.29 | $6.49 |
| 102592ER | XFR2405SB | FS24500 | 115/230 | 12.0 | 12V @ .50A | 12V @ 1.0A | 24VCT @ .50A | 1.58 | 1.90 | 1.46 | 0.7 | 8.79 | 7.95 |

## Quick-Connect Power Transformers

Expanded Selection

- Quick-connect transformers are bobbin wound for smaller size and reduced electrostatic shielding requirements
- Terminals: quick connect, solder
- Input voltage: 115/230VAC, 50-60Hz




104387ER

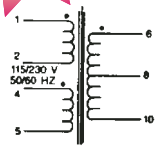



Fig. 1

| Part Number | Mfr. Cross Ref. No. | Triad Cross | Fig. | Input Voltage | Output Voltage | VA Cap | Size of Connect | Dimensions L" | W" | H" | Weight (lbs.) | Pricing 1 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 104387ER | XFR1225Q | FD612 | 1 | 115/230VAC | 12.6VCT @ 2.5A | 31.5 | 0.187" | 1.75 | 2.33 | 2.00 | 1.3 | $9.29 | $8.65 |
| 104408ER | XFR1635Q | FD716 | 1 | 115/230VAC | 16VCT @ 3.5A | 56.0 | 0.187" | 2.00 | 2.70 | 2.30 | 1.8 | 12.95 | 11.01 |
| 101864ER | XFR2424Q | FD724 | 1 | 115/230VAC | 24VCT @ 2.4A | 57.6 | 0.187" | 2.40 | 2.70 | 2.25 | 1.7 | 11.95 | 10.16 |
| 104416ER | XFR3615Q | FD736 | 1 | 115/230VAC | 36VCT @ 1.5A | 54.0 | 0.187" | 1.90 | 2.70 | 2.30 | 1.8 | 9.95 | 8.99 |

## 115VAC and 115/230VAC Power Transformers

Power transformers have both single and dual-voltage input and center-tapped outputs. This makes them the perfect choice for power supply design or for use in transformer, rectifier and filter circuits.

- Primary: 115VAC or 115/230VAC, 50-60Hz

Expanded Selection

115VAC 50-60Hz

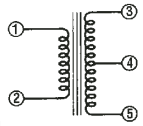


Fig.1

115/230VAC 50-60Hz

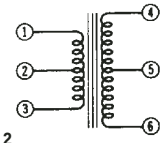
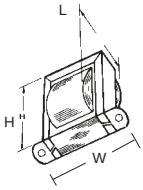


Fig. 2



29225ER

| Part Number | Mfr. Cross Ref. No. | Triad Cross | Primary Color Code | | | VA Cap | Secondary Voltage | Secondary Color Code | | | Lead Type | Fig. | Dimensions L" | W" | H" | Weight (lbs.) | Pricing 1 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 102162ER | XFR6102 | F314X | Black | Yellow* | Red | 7.6 | 6.3VCT @ 1.2A | White | Black* | White | Wire | 2 | 1.56 | 1.96 | 1.67 | 0.8 | $8.49 | $7.22 |
| 102154CX | XFR1220 | F344X | Black | Yellow* | Red | 25.2 | 12.6VCT @ 2A | White | Black* | White | Wire | 2 | 2.35 | 2.32 | 1.97 | 1.5 | 10.95 | 9.39 |
| 149770ER | XFR1240 | F3181U | Black | Red* | Yellow | 50.4 | 12.6VCT @ 4A | White | Black* | White | Wire | 2 | 2.45 | 2.70 | 2.24 | 2.2 | 12.95 | 11.69 |
| 102120ER | XFR124 | F181U | Black | — | Black | 50.4 | 12.6VCT @ 4A | White | Black* | White | Wire | 1 | 2.53 | 3.08 | 2.61 | 2.7 | 12.95 | 11.69 |
| 29225ER | XFR122 | F44X | Yellow | — | Yellow | 25.2 | 12.6VCT @ 2A | Blue | Red* | Black | Wire | 1 | 2.12 | 2.33 | 1.96 | 1.5 | 9.95 | 8.46 |
| 102103ER | XFR2520 | F341X | Black | White* | Red | 50.4 | 25.2VCT @ 2A | Orange | Black* | Orange | Wire | 2 | 2.45 | 2.67 | 2.26 | 2.8 | 14.95 | 12.71 |

* Center tap

## 120VAC to 120VAC Isolated Transformer

***300VA***

- Input voltage: 120VAC @ 60Hz
- Input connector: 5.5' cord with 2-prong plug
- Output voltage: 120VAC @ 2.5A (isolated)
- Size: 4.2"H x 3.2"W x 4.6"D
- Weight: 7.0 lbs.

| Part No. | Mfr. Cross Ref. No. | 1 | 10 |
|---|---|---|---|
| 181315ER | ITR300 | $44.95 | $38.21 |

**More Variable Transformers @ www.Jameco.com**

## AEEC 110VAC Variable AC Transformers

- Input voltage: 110VAC @ 60 Hz
- Power: 500 and 2000VA
- Output voltage: 0 to 130VAC
- Output analog voltmeter
- Input conn.: 3-prong plug w/ 5' cord
- Output conn.: 3-prong outlet type
- Lighted on/off power switch

**169640ER:** • 5A @ 250V fuse
- Size: 8.3"L x 6.5"W x 7.0"H
- Weight: 15.6 lbs.

**169658ER:** • 20A @ 250V fuse
- Size: 9.8"L x 8.0"W x 7.0"H
- Weight: 26.5 lbs.

169640ER

169658ER

| Part No. | Description | 1 | 10 |
|---|---|---|---|
| 169640ER | 500VA transformer | $84.95 | $76.49 |
| 169658ER | 2000VA transformer | 124.95 | 112.49 |

## 110/220VAC Variable AC Transformers

- Input: 110VAC or 220VAC
- Power: 500-2000VA
- Output: 0-240VAC
- Banana/screw input terminals
- Universal US/European output plugs
- Lighted on/off power switch

121275ER

| Part No. | Fuse | Size (L" x W" x H") | Wt. (lbs.) |
|---|---|---|---|
| 121275ER | 3A/250V (P/N 69438ER) | 5.3 x 7.3 x 7.0 | 10.4 |
| 129007ER | 5A/250V (P/N 10401ER) | 9.4 x 6.5 x 7.7 | 14.8 |
| 152581ER | 10A/250V (P/N 69462ER) | 9.0 x 7.0 x 7.7 | 19.8 |

| Part No. | Description | 1 | 10 |
|---|---|---|---|
| 121275ER | 500VA transformer | $79.95 | $69.95 |
| 129007ER | 1000VA transformer | 164.95 | 148.49 |
| 152581ER | 2000VA transformer | 174.95 | 158.45 |

## Power Entry Filters

- Frequency: 50/60Hz

40601ER

147109ER

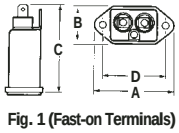



Fig. 1 (Fast-on Terminals)

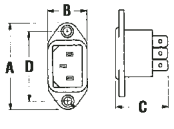



Fig. 2 (Male)

| Part Number | Mfr. Cross Ref. No. | Corcom Cross | Description | Fig. | (Amps) | Current (VAC) | Voltage Terminals | Agency Approvals | Terminal Size | Dimension (inches) A | B | C | D | Pricing 1 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 150615ER | 03AC1 | 3EF1 | Power entry filter, straight (flanged) | 1 | 3 | 250 | solder | UL/CSA/VDE | .16" | 1.89 | 0.88 | 2.58 | 1.58 | $5.95 | $5.36 |
| 40601ER | 03AE1* | 3EF1F | Power entry filter, straight (flanged) | 1 | 3 | 250 | fast-on | UL/CSA/VDE | .25" | 1.97 | 0.90 | 2.16 | 1.58 | 5.95 | 5.36 |
| 147109ER | 42R02 | | AC power inlet (male) snap-in | 2 | 15 | 250 | fast-on | UL/CSA/VDE | .25" | 1.22 | 0.94 | 1.13 | N/A | .26 | .23 |

* Manufacturer may vary

COLOR CODE LEGEND... NEW SALE REFURBISHED CLOSEOUT

## Computer and Power Cords

- Molded connectors
- Excellent resistance to jacket abrasion
- Temperature: -20°C to +60°C
- Voltage rating: 300 volts

| AWG | Volts | Amps | VA |
|---|---|---|---|
| 18 | 125 | 10 | 1250 |
| 16 | 125 | 12 | 1500 |
| 14 | 125 | 15 | 1875 |

Configuration 8 Laptop Power Cord (Fig. 1)

Power Cord w/ pigtail (Fig. 2)

RFI Power Cord (Fig. 3)

Gray Right Angle Computer Power Cord (Fig.4)

Hospital Grade Cord (Fig. 5)

| Part No. | Mfr. Cross Reference No. | Description | Wt. (lbs.) | Approvals | Fig. | Length | AWG | Cord Type* | 1 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|
| 189587ER | VW-1 | 2-conductor "8" style power cord for laptops and power supplies | .30 | UL/CSA | 1 | 16' | 18/2 | SPT-2 | $2.95 | $2.21 |
| 37997ER | 17236 | 3-conductor power cord with pigtail | .30 | UL/CSA | 2 | 6' | 18/3 | SVT | 2.79 | 2.32 |
| 196285ER | LL40378 | 3-conductor power cord with pigtail | .80 | UL/CSA | 2 | 10' | 16/3 | SJT | 3.49 | 3.14 |
| 38041ER | 17249 | 3-conductor power supply cord | .37 | UL/CSA | 3 | 6' | 18/3 | SVT | 3.49 | 3.15 |
| 38050ER | 17250 | 3-conductor power supply cord | .36 | UL/CSA | 3 | 6' | 18/3 | SVT | 3.75 | 3.29 |
| 125541ER | 17504 | 3-conductor power supply cord | .71 | UL/CSA | 3 | 6' 7" | 14/3 | SJT | 4.95 | 4.25 |
| 117356ER | 8120-6177 | 3-conductor right angle power supply cord | .41 | UL/CSA | 4 | 6' | 18/3 | SVT | 3.95 | 3.19 |
| 115078ER | 17006 | 3-conductor power cord w/ hospital grade male (green dot) | .84 | UL/CSA | 5 | 10' | 16/3 | SJT | 8.95 | 8.05 |

* Thermoplastic Cord Jacket Type: Light duty; SPT-2 (Flat): Junior duty; SVT (Round): Light service; SJT (Round): Junior service

## International Step-Up/Step-Down Transformers

Fig. 1

Fig. 2

Fig. A

Fig. B

Output Plug

- Wide selection to meet your power requirements

| Part Number | Mfr. Cross Ref. No.* | Fig. | Primary Voltage | Secondary Voltage | Power (VA) | Dimensions H" | W" | D" | Weight (lbs.) | Pricing 1 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 99573ER | AC110V50 | 1/A | 220VAC | 110VAC | 50 | 2.50 | 1.63 | 1.33 | 0.7 | $9.95 | $8.99 |
| 85016ER | AC110V300 | 2/A | 220VAC | 110VAC | 300 | 3.50 | 3.05 | 3.95 | 4.8 | 27.95 | 24.95 |
| 111851ER | AC110V500 | 2/A | 220VAC | 110VAC | 500 | 3.99 | 3.60 | 4.84 | 8.5 | 34.95 | 31.49 |
| 142906ER | AC110V1500 | 2/A | 220VAC | 110VAC | 1500 | 5.25 | 4.50 | 5.75 | 15.2 | 79.95 | 67.96 |
| 85008ER | AC220V300 | 2/A | 110VAC | 220VAC | 300 | 3.50 | 3.05 | 3.95 | 4.8 | 27.95 | 23.76 |
| 222092ER | G1SD-1000 | 2/A | 220VAC | 110VAC | 1000 | 5.38 | 4.38 | 8.13 | 31.0 | 149.95 | 127.46 |

* Manufacturer may vary

## AC Tube Axial Fans

- Rating 115 & 220VAC @ 50/60Hz
- Ball and sleeve bearings
- Low acoustical noise rating
- Air flow from 11 to 211 CFM
- Agency approved fans

NEW

♦Size Conversion: Inches to mm

| Inches | 0.25 | 0.40 | 0.47 | 0.60 | 0.80 | 0.90 | 1.00 | 1.18 | 1.26 | 1.40 | 1.50 | 1.60 | 1.80 | 2.00 | 2.36 | 2.98 | 3.15 | 3.63 | 3.72 | 3.83 | 4.68 | 5.90 | 6.75 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| mm | 6 | 10 | 12 | 15 | 20 | 23 | 25 | 30 | 32 | 35 | 38 | 40 | 45 | 50 | 60 | 75 | 80 | 92 | 95 | 97 | 120 | 150 | 170 |

| Part Number | Manufacturer | Product Number | Voltage (VAC) | Size♦ (W" x H" x D") | Air Flow (CFM) | Bearing | Current (mA) | Power (Watts) | Agency Approvals | Noise (dBA) | Connection (Leads) | Pricing 1 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 303491ER | Fulltech | UF6011BTH | 115 | 2.36 x 2.36 x 1.00 | 10 | Ball | 38 | 4 | UL/CSA/CE | 29 | Terminals | $15.49 | $13.95 |
| 162704ER | Toyo | USTF60301153W | 115 | 2.36 x 2.36 x 1.18 | 11 | Ball | 38 | 4 | UL/CSA/CE | 29 | 12" leads | 15.49 | 13.95 |
| 303394ER | Fulltech | UF80A11STL | 115 | 3.15 x 3.50 x 1.50 | 25 | Sleeve | 100 | 11.5 | UL/CUL/TUV/CE | 32 | Terminals | 10.19 | 9.18 |
| 297932ER | Fulltech | UF80A11SWH | 115 | 3.15 x 3.50 x 1.50 | 30 | Sleeve | 120 | 12 | UL/CUL/TUV/CE | 36 | 12" leads | 10.19 | 9.18 |
| 303386ER | Fulltech | UF80A11STH | 115 | 3.15 x 3.50 x 1.50 | 30 | Sleeve | 120 | 12 | UL/CUL/TUV/CE | 36 | Terminals | 10.19 | 9.18 |
| 303466ER | Sunon | SF11592A-1092HBL | 115 | 3.63 x 3.63 x 1.00 | 37 | Ball | 110 | 12 | UL/CSA/TUV/CE | 40 | 12" leads | 15.95 | 14.39 |
| 303407ER | Sunon | SP100A-1123XBL | 115 | 4.68 x 4.68 x 1.50 | 117 | Ball | 240 | 20 | UL/CSA/TUV/CE | 50 | 12" leads | 14.95 | 13.95 |
| 303440ER | Fulltech | UF12A11BWL1 | 115 | 4.68 x 4.68 x 1.50 | 64 | Ball | 80 | 15 | UL/CSA/TUV/CE | 37 | 12" leads | 14.95 | 13.49 |
| 124062ER | Sunon | SP101AT1122HBT | 115 | 4.68 x 4.68 x 1.00 | 78 | Ball | 180 | 18 | CSA/TUV/CE | 46 | Terminals | 13.49 | 10.95 |
| 303482ER | Fulltech | UF12A11SWL | 115 | 4.68 x 4.68 x 1.50 | 81 | Sleeve | 150 | 15 | UL/CSA/TUV/CE | 38 | 12" leads | 12.85 | 11.54 |
| 303415ER | Common Wealth | FP108-1-S1-B/W | 115 | 4.68 x 4.68 x 1.50 | 105 | Ball | 200 | 17 | UL/CSA/TUV/CE | 47 | 12" leads | 16.95 | 15.29 |
| 106585ER | Common Wealth | FP108-1-S1/T | 115 | 4.68 x 4.68 x 1.50 | 105 | Sleeve | 180 | 12 | UL/CSA/CE | 47 | Terminals | 15.95 | 14.39 |
| 16934ER | Common Wealth | FP108-1-S1-B | 115 | 4.68 x 4.68 x 1.50 | 105 | Ball | 200 | 17 | UL/CSA/TUV/CE | 47 | Terminals | 16.95 | 15.29 |
| 102883ER | Sunon | SP100A-1123XBT | 115 | 4.68 x 4.68 x 1.50 | 117 | Ball | 240 | 20 | UL/CSA/TUV/CE | 50 | Terminals | 14.95 | 13.95 |
| 108724ER | Fulltech | UF15AC11BTH | 115 | 6.75 x 5.90 x 1.50 | 211 | Ball | 230 | 28 | UL/CUL/TUV/CE | 58 | Terminals | 27.95 | 27.10 |
| 303458ER | Sunon | DP200A-2123XBL | 220 | 4.68 x 4.68 x 1.50 | 117 | Ball | 120 | 21 | UL/CSA/TUV/CE | 50 | 12" leads | 15.95 | 14.39 |
| 102891ER | Sunon | DP200A-2123XBT | 220 | 4.68 x 4.68 x 1.50 | 117 | Ball | 120 | 21 | UL/CUL/TUV/CE | 50 | Terminals | 15.95 | 14.39 |

## Straight and Right-Angle 24" Fan Cords

104192ER

- Cord type: SPT-1 (2) conductor black
- Volt. rating: 300V
- Temp.range: 60°C
- Fits all terminal fans
- Length 24"

| Part No. | Description | 1 | 10 |
|---|---|---|---|
| 28564ER | Straight socket cord ..... | $.89 | $.80 |
| 104192ER | 90˚ angle socket cord ~~$0.99~~ | .85 | .67 |

## Fan Guards and Filters

*Compatible with DC and AC Fans – above*

- Guards & filters fit fans by matching the size dimension. Example: P/N 16993ER fan (3.15") matches P/N 31923ER metal guard (3.15").

| Part No. | Description♦ | 1 | 10 |
|---|---|---|---|
| 120037ER | 2.36" metal (chrome) guard | $.79 | $.71 |
| 31923ER | 3.15" metal (chrome) guard | .79 | .65 |
| 25734ER | 4.68" metal (chrome) guard | 1.09 | .85 |
| 138579ER | 3.15" alum. washable filter | 2.95 | 2.65 |
| 130104ER | 4.68" alum. washable filter | 3.49 | 3.19 |

120037ER

138579ER/130104ER

134586ER

**Call for additional OEM PRICING – we carry major manufacturers.**

- Low profile
- Ball and sleeve bearings
- Low acoustical noise rating
- PBT black thermo plastic frame and impeller
- Agency approved
- Low power consumption
- Power input by lead wires or terminals

Expanded Selection

102955ER

♦**Size Conversion: Inches to mm**

| Inches | 0.25 | 0.40 | 0.47 | 0.60 | 0.80 | 0.90 | 1.00 | 1.18 | 1.26 | 1.40 | 1.50 | 1.60 | 1.80 | 2.00 | 2.36 | 2.98 | 3.15 | 3.63 | 3.72 | 3.83 | 4.68 | 5.90 | 6.75 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| mm | 6 | 10 | 12 | 15 | 20 | 23 | 25 | 30 | 32 | 35 | 38 | 40 | 45 | 50 | 60 | 75 | 80 | 92 | 95 | 97 | 120 | 150 | 170 |

| Part Number | Manufacturer | Product Number | Voltage (VDC) | Size♦ (W" x H" x D") | Air Flow (CFM) | Bearing | Current (mA) | Power (Watts) | Agency Approvals | Noise (dBA) | Connection (Leads) | Pricing 1 | Pricing 10 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 163475ER | Nidec | C34427-55APP | 5 | 1.00 x 1.00 x 0.40 | 0.5 | Ball | 90 | 0.45 | — | 22 | 2" | $4.95 | $4.46 |
| 196373ER | Sunon | KD0504PFB2-8 | 5 | 1.60 x 1.60 x 0.40 | 5.5 | Ball | 90 | 0.5 | UL/CUL | 23 | 12" | 8.95 | 8.09 |
| 102921ER | Sunon | KD0504PFS2-8 | 5 | 1.60 x 1.60 x 0.40 | 6.3 | Sleeve | 120 | 0.6 | UL/CUL | 24.3 | 12" | 7.95 | 6.95 |
| 207061ER | Adda | AD0505MB-G90 | 5 | 2.00 x 2.00 x 0.40 | 10.5 | Ball | 120 | 0.7 | UL/CSA/CE | 24 | 11" | 7.95 | 6.55 |
| 207052ER | Adda | AD0412MB-K90 | 12 | 1.60 X 1.60 X 0.25 | 5.5 | Ball | 60 | 0.72 | UL/CSA/TUV/CE | 25 | 5" | 6.95 | 6.26 |
| 189691ER | Sunon | KD1204PFS2 | 12 | 1.60 x 1.60 x 0.40 | 6.3 | Sleeve | 70 | 0.9 | UL/CSA/TUV | 24 | 12" | 7.95 | 7.19 |
| 161699ER | Sunon | KD1204PFB2-8 | 12 | 1.60 x 1.60 x 0.40 | 6.3 | Ball | 70 | 0.6 | UL/CSA/TUV | 30 | 12" | 7.95 | 6.95 |
| 212716ER | Sunon | KDE1204PFB2-H | 12 | 1.60 x 1.60 x 0.40 | 6.5 | Ball | 90 | 1.1 | UL/CUL/TUV/CE/VDE | 27 | 12" | 6.65 | 4.95 |
| 213428ER | Adda[1] | ADO412HB-G76 | 12 | 1.60 x 1.60 x 0.40 | 6.7 | Ball | 100 | 1.2 | CE | 30.2 | 12"/3 leads | 7.59 | 6.83 |
| 206164ER | Sunon | KDE1204PKBX-8 | 12 | 1.60 x 1.60 x 0.80 | 10 | Ball | 90 | 1.1 | UL/TUV/CE | 29.4 | 12" | 8.95 | 7.95 |
| 212644ER | Sunon | KDE1205PFB3-HG | 12 | 2.00 x 2.00 x 0.40 | 8.5 | Ball | 60 | 0.7 | UL/CUL/TUV/CE/VDE | 26 | 12" | 6.49 | 5.84 |
| 212652ER | Sunon | KDE1205PFB2-HG | 12 | 2.00 x 2.00 x 0.40 | 10.6 | Ball | 80 | 1.0 | UL/CUL/TUV/CE/VDE | 31.5 | 12" | 6.65 | 4.95 |
| 212661ER | Sunon | KDE1205PFB1-HG | 12 | 2.00 x 2.00 x 0.40 | 12.5 | Ball | 110 | 1.4 | UL/CUL/TUV/CE/VDE | 36 | 12" | 6.65 | 4.95 |
| 175046ER | Globe Motors | D24-B08A-04W3-000 | 12 | 2.36 x 2.36 x 0.80 | 10.6 | Ball | 90 | 0.8 | UL/CSA/TUV/CE | 22 | 13" | 6.95 | 6.25 |
| 144160ER | Adda | AD0612LB-C70GL | 12 | 2.36 x 2.36 x 0.80 | 12.6 | Ball | 80 | 1.0 | UL/CSA/TUV | 22.7 | 6" | 8.49 | 7.69 |
| 150421ER | Jamicon | JF0625B1H | 12 | 2.36 x 2.36 x 1.00 | 20.5 | Ball | 230 | 2.7 | UL/CSA/TUV | 30.5 | 10" | 6.95 | 6.29 |
| 134586ER | Delta[2] | BFB0712H | 12 | 2.98 x 2.98 x 1.18 | 11.3 | Ball | 360 | 2.6 | UL/CSA/TUV/VDE | 38 | 4" | 13.95 | 12.59 |
| 16993ER | Various[3] * | FAN7315SL | 12 | 3.15 x 3.15 x 1.00 | 25-40* | Sleeve | 120-200* | 1-2* | UL/CSA* | 25* | 4-12"* | 6.95 | 6.29 |
| 75361ER | Various* | FAN6315BL | 12 | 3.15 x 3.15 x 1.00 | 25-40* | Ball | 120-200* | 1-2* | UL/CSA* | 25* | 4-12"* | 5.95 | 5.39 |
| 154288ER | Sunon | KDE1208PTS3-6 | 12 | 3.15 x 3.15 x 1.00 | 29.4 | Sleeve | 120 | 1.4 | UL/CSA/TUV/CE | 24.5 | 5.5" | 4.55 | 4.09 |
| 185834ER | Panaflo | FBM08A12H | 12 | 3.15 x 3.15 x 1.00 | 39.6 | Sleeve | 220 | 2.1 | — | 32 | 11" | 6.95 | 6.29 |
| 206181ER | Sunon | KDE1208PTS1-6 | 12 | 3.15 x 3.15 x 1.00 | 42 | Sleeve | 220 | 2.6 | UL/CSA/TUV/CE | 34 | 9" | 5.95 | 5.35 |
| 185826ER | NMB[4] | 3110KL-04W-B69 | 12 | 3.15 x 3.15 x 1.00 | 42 | Ball | 340 | 3.1 | UL/CSA/VDE/CE | 35 | 13"/3 leads | 6.95 | 6.26 |
| 102955ER | Sunon | KD1208PTB1-6 | 12 | 3.15 x 3.15 x 1.00 | 42.5 | Ball | 220 | 2.6 | UL/CSA/TUV/CE | 33.5 | 12" | 6.49 | 5.85 |
| 172460ER | Nidec[4] | TA300DCM33406-68 | 12 | 3.15 x 3.15 x 1.00 | 43 | Ball | 290 | 3.5 | UL/CSA | 41 | 11"/3 leads | 9.95 | 8.99 |
| 190983ER | Sunon | KD1209PTB1-6A | 12 | 3.63 x 3.63 x 1.00 | 51 | Ball | 220 | 2.6 | UL/CSA/TUV | 34 | 12" | 7.25 | 6.55 |
| 162739ER | NMB (Smart Fan)† | 3610KL-04W-B56 | 12 | 3.63 x 3.63 x 1.00 | 55 | Ball | 430 | 3.8 | UL/CSA/VDE/CE | 37 | 10"/3 leads | 7.19 | 6.47 |
| 102963ER | Nidec | TA350DC-M33503-55 | 12 | 3.63 x 3.63 x 1.00 | 56 | Ball | 400 | 4.8 | UL/CSA | 45 | 8" | 7.95 | 6.95 |
| 213567ER | Nidec[4] | A34124-33 | 12 | 3.83 x 3.72 x 1.30 | 25 | Ball | 650 | 7.8 | UL/CUL | 60 | 11.5"/3 leads | 19.95 | 17.95 |
| 174140ER | Common Wealth | FP108MS3 | 12 | 4.68 x 4.68 x 1.00 | 54 | Sleeve | 140 | 1.7 | UL/CSA/TUV/CE | 25 | 12" | 6.95 | 6.29 |
| 102875ER | Delta | WFB1212H | 12 | 4.68 x 4.68 x 1.00 | 86.5 | Ball | 360 | 4.3 | UL/CSA/TUV | 37.6 | 12" | 10.95 | 9.89 |
| 163619ER | NMB (Smart Fan)† | 4710NL012P535P0 | 12 | 4.68 x 4.68 x 1.00 | 90 | Ball | 740 | 8.9 | — | 38.5 | 12" | 4.95 | 4.46 |
| 94625ER | Sunon | KD1212PMB1-6A | 12 | 4.68 x 4.68 x 1.50 | 108 | Ball | 570 | 6.8 | UL/CSA/TUV/CE | 42 | 12" | 11.95 | 10.79 |
| 189851ER | Delta | WFB1212HE | 12 | 4.68 x 4.68 x 1.50 | 108 | Ball | 490 | 5.9 | UL/CSA/VDE/CE | 41.3 | 12" | 11.95 | 10.79 |
| 189886ER | NMB | 3610KL-05W-B30 | 24 | 3.63 x 3.63 x 1.00 | 40.6 | Ball | 87 | 2.1 | UL/CSA/VDE | 34 | 12" | 7.95 | 7.16 |
| 153411ER | Sunon | KD2412PMB2-6A | 24 | 4.68 x 4.68 x 1.50 | 98 | Ball | 230 | 5.5 | UL/CSA/TUV | 36.5 | 12" | 11.95 | 10.79 |

[1] ATX PC type [2] Blower type fan [3] Replacement for the PC/XT computer power supply fan [4] Speed sensor † **162739ER:** (50˚C, 3 leads); P/N **163619ER:** (35˚C) * Manufacturers & specifications may vary

# Motors

## 1.5-26VDC Motors

154915ER

231925ER

177498ER

| Part Number | Product Number | Manufacturer | Efficiency | Nominal Voltage (VDC) | Voltage Range (VDC) | @ Maximum Efficiency Current (Amps) | @ Maximum Efficiency RPM | @ Maximum Efficiency Torque (g-cm) | Terminal Type | Shaft Dia. (in.) | Shaft Length (in.) | Size (D" x L") | Pricing 1 | Pricing 10 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 231861ER | UE-260-2850 | Nichibo | 34.88 | 1.5 | 1.5-3 | 1.150 | 4260 | 13.35 | Solder | 0.078 | 0.314 | 0.94 x 1.06 | $1.25 | $1.09 |
| 154915ER | ST-130-12240 | Star Motor | 55 | 3 | 1.5-3 | 0.170 | 3588 | 7.4 | Solder | 0.080 | 0.370 | 0.79 x 1.13 | 1.09 | .93 |
| 231909ER | FE-260-18130 | Nichibo | 49.63 | 3 | 1.5-4.5 | 0.360 | 4780 | 10.27 | Solder | 0.078 | 0.314 | 0.94 x 1.06 | .99 | .89 |
| 231925ER | FE-260-2295 | Nichibo | 53.91 | 3 | 1.5-4.5 | 0.630 | 6850 | 13.96 | Solder | 0.078 | 0.314 | 0.94 x 1.06 | .99 | .89 |
| 231781ER | PC-130F-12240 | Nichibo | 33.39 | 6 | 3-9 | 0.254 | 6800 | 6.95 | Solder | 0.078 | 0.377 | 0.80 x 0.99 | 2.09 | 1.89 |
| 231992ER | UC-260-18160 | Nichibo | 49.85 | 6 | 3-9 | 0.571 | 7460 | 22.13 | Solder | 0.078 | 0.314 | 0.94 x 1.06 | 1.49 | 1.35 |
| 231984ER | UC-260-14275 | Nichibo | 48.84 | 6 | 6-12 | 0.208 | 4150 | 13.06 | Solder | 0.078 | 0.314 | 0.94 x 1.06 | 1.49 | 1.35 |
| 177498ER | RC280RA-2485 | Mabuchi Motor | 57 | 7.2 | 3-14 | 1.180 | 14260 | 33.3 | Solder | 0.080 | 0.430 | 0.95 x 1.20 | 1.75 | 1.55 |

*Motors continued on page 44*

COLOR CODE LEGEND... NEW SALE REFURBISHED CLOSEOUT

## 1.5-26VDC Motors (continued)

232012ER

237382ER

237403ER

| Part Number | Product Number | Manufacturer | Efficiency | Nominal Voltage (VDC) | Voltage Range (VDC) | @ Maximum Efficiency Current (Amps) | RPM | Torque (g-cm) | Terminal Type | Shaft Dia. (in.) | Shaft Length (in.) | Size (D" x L") | Pricing 1 | Pricing 10 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **232047ER** | MD5-2445 | Nichibo | 65.98 | 12 | 6-12 | 2.050 | 19850 | 79.7 | Solder | 0.091 | 0.622 | 1.08 x 1.28 | **$2.25** | **$1.99** |
| **153656ER** | RS550PF — NEW | Mabuchi Motor* | — | 12 | 6-15 | 1.400 | 6500 | 44.1 | Solder | 0.13 | 0.66 | 1.45 x 2.25 | **3.29** | **2.99** |
| **231757ER** | PC-130SF-10315 | Nichibo | 44.60 | 12 | 6-18 | 0.250 | 6350 | 20.00 | Solder | 0.078 | 0.377 | 0.80 x 0.98 | **2.09** | **1.89** |
| **231749ER** | PC-130SF-09400 | Nichibo | 42.50 | 12 | 6-24 | 0.150 | 5130 | 14.32 | Solder | 0.078 | 0.377 | 0.80 x 0.98 | **2.09** | **1.89** |
| **232012ER** | MD5-12160 | Nichibo | 39.10 | 12 | 12-24 | 0.300 | 4000 | 34.29 | Solder | 0.091 | 0.622 | 1.08 x 1.28 | **2.25** | **1.99** |
| **237382ER** | 29SYT002 | GBM | — | 24 | — | <0.930 | >2680 | 178.4 | Wire | 0.100 | 0.334 | 0.79 x 1.89 | **5.95** | **5.35** |
| **232101ER** | MD5-1980AS-AA | Nichibo | 60.92 | 24 | 12-24 | 1.430 | 22600 | 88.5 | Solder | 0.091 | 0.512 | 1.08 x 1.28 | **3.59** | **3.19** |
| **237403ER** | 40SYT002 | GBM | — | 26 | — | 1.500 | 300 | 815 | Quick Connect | 0.196 | 1.021 | 1.57 x 3.85 | **25.95** | **23.35** |

*Manufacturer may vary

## 12 VDC Reversible Gear Head Motors

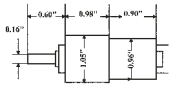
HSIANG NENG

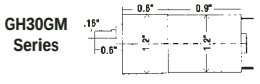
- Solder-type terminal
- High torque construction
- Oil bearing design for long service life
- Insulation resistance: 10MΩ
- Dielectric strength: 300VDC

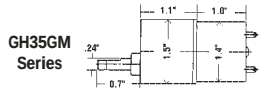
167038ER

153437ER

155011ER


HN27GD Series


GH30GM Series


GH35GM Series

### HN27GD Series

| Part Number | Product Number | Rated Voltage | Operating Range (VDC) | No Load Current (mA) | No Load Speed (rpm) | Started Torque (g-cm) | Gear Ratio | Gear Case Size Dia. x Length (in.) | Motor Size Dia. x Length (in.) | Shaft Size Dia. x Length (in.) | Pricing 1 | Pricing 10 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **167038ER** | GH12-0953Y | 12 | 4.5 – 24 | 45 | 14 | 1200 | 188:1 | 1.0 x 0.9 | 1.1 x 1.0 | .16 x .60 | **$16.49** | **$14.85** |
| **167046ER** | GH12-1828Y — NEW | 12 | 4.5 – 24 | 195 | 31 | 1300 | 90:1 | 1.1 x 1.3 | 1.1 x 0.8 | .16 x .60 | **21.95** | **19.79** |

### GH30GM Series

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **153437ER** | GH12-1045Y | 12 | 3.0 – 12 | 35 | 15 | 800 | 200:1 | 0.9 x 1.0 | 1.1 x 0.6 | .16 x .70 | **$18.95** | **$17.09** |
| **162190ER** | GH12-1324Y225 | 12 | 4.5 – 12 | 65 | 225 | 700 | 30:1 | 1.0 x 0.9 | 1.1 x 0.6 | .16 x .70 | **16.95** | **15.25** |

### GH35GM Series

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **155011ER** | GH12-1926 | 12 | 4.5 – 12 | 55 | 2 | 15000 | 3000:1 | 1.3 x 0.9 | 1.5 x 1.1 | .23 x .90 | **$21.95** | **$19.79** |
| **155820ER** | GH12-1830Y-P | 12 | 4.5 – 12 | 50 | 4.5 | 13000 | 1000:1 | 1.3 x 0.9 | 1.5 x 1.0 | .23 x .90 | **21.95** | **19.79** |
| **155838ER** | GH12-1641T-L | 12 | 3.0 – 12 | 65 | 20 | 10000 | 270:1 | 1.3 x 0.9 | 1.5 x 0.8 | .23 x .90 | **23.95** | **21.59** |
| **152910ER** | GH12-1926Y | 12 | 4.5 – 12 | 48 | 44 | 11800 | 100:1 | 1.3 x 1.0 | 1.5 x 0.7 | .24 x .90 | **21.95** | **18.66** |
| **151440ER** | GH12-1632TI | 12 | 4.5 – 12 | 75 | 69 | 11000 | 100:1 | 1.3 x 0.9 | 1.5 x 0.7 | .23 x .90 | **21.95** | **18.55** |
| **155854ER** | GH12-1641T-F | 12 | 3.0 – 12 | 65 | 87 | 7000 | 60:1 | 1.3 x 0.9 | 1.4 x 0.9 | .23 x .90 | **21.95** | **19.79** |
| **155862ER** | GH12-1926Y-F | 12 | 4.5 – 12 | 60 | 100 | 5000 | 60:1 | 1.3 x 0.9 | 1.4 x 0.9 | .23 x .90 | **21.95** | **19.79** |
| **161373ER** | GH12-1345T | 12 | 4.5 – 12 | 185 | 116 | 650 | 30:1 | 1.3 x 0.9 | 1.5 x 0.7 | .23 x .90 | **23.95** | **20.36** |
| **161381ER** | GH12-1634T | 12 | 4.5 – 12 | 111 | 200 | 3600 | 30:1 | 1.3 x 0.9 | 1.4 x 0.7 | .23 x .90 | **21.95** | **19.79** |
| **164785ER** | GH12-1640Y | 12 | 4.5 – 24 | 45 | 300 | 800 | 10:1 | 1.3 x 0.9 | 1.4 x 0.7 | .23 x .90 | **23.95** | **21.59** |

## 120VAC Gear Motor

### *6.0 RPM - 2.9 Watt*

- Operating Voltage: 120VAC @ 60Hz • Torque: >3.6 kg-cm
- Connector: 12" wires
- Screw down tabs for mounting it (2.3" diagonal mounting hole space)
- Shaft diameter: 0.27" • Shaft length: 0.65"
- Overall size: 2.0" Dia. x 1.0" Thick
- Typical applications: air conditioner turnleaf motor, microwave turnplate motor

| Part No. | Mfr. Cross Ref. No. | 1 | 10 |
|---|---|---|---|
| **213487ER** | 50TYZ — NEW | **$14.95** | **$13.46** |

***Over 99% of our products are in stock! Place your order by 6PM EST for same business day shipment. 1-800-455-6119 www.Jameco.com***

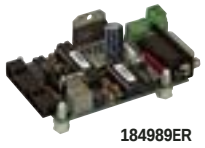
## KAE

## Industrial Motion Controllers for Brush and Brushless Motors

JR Kerr Automation Engineering controllers include integrated power amplifiers. Up to 32 controllers can be daisy-chained from a single full-duplex RS485 port.

**184989ER: PIC-SERVO motor control board**

- For brush-type DC motors with 2 or 3 channel incremental encoders
- P.I.D. Servo control, trapezoidal position profiling, velocity mode, 32-bit resolution
- Integrated 12 to 48VDC supply power amplifier @ 3A continuous, 6A peak
- Limit switch inputs, general purpose analog input, PWM, DIR output for use with external amps


184989ER

**185009ER: PIC-SERVO 3PH motor control board for brush or brushless motors**

- For 3-phase brushless motors with hall effect sensors or conventional DC brushtype motors
- High current amplifier: 7A continuous, 10A peak, 12 to 48VDC supply
- Same features as 184989ER above but with support for linear and circular interpolation using the PIC-SERVO CMC chipset

185009ER

| Part No. | Description | Size (L" x W" x H") | 1 | 10 |
|---|---|---|---|---|
| **184989ER** | PIC-SERVO — NEW | 3.1 x 2.1 x 0.9 | **$179.95** | **$161.95** |
| **185009ER** | PIC-SERVO 3PH — NEW | 3.1 x 3.1 x 1.0 | **239.95** | **215.95** |

## 12VDC Continuous Push and Pull Solenoids

262262ER

262271ER

142463ER

163803ER

149761ER

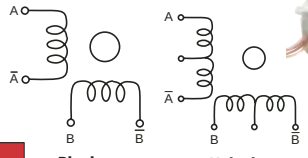
| Part No. | Mfr. Cross Reference No. | Type | Voltage (VDC) | Coil Res. (±10%) (Ohms) | Power Consump. (W) | Holding Force (lbs. @ 20°C) | Stroke | Size L x Dia. (in.) † | Shaft Dia. (in.) | Wt. (lbs.) | Pricing 1 | Pricing 10 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **262262ER** | SMO-0837L12STD | Open frame-pull | 12 | 36 | 4.0 | 1.10 | 0.24 | 1.5 x 1.0 x 0.8 | 0.310 | 0.21 | **$7.29** | **$6.56** |
| **262271ER** | SMO-0837S12STD | Open frame-push | 12 | 36 | 4.0 | 1.10 | 0.24 | 1.5 x 1.0 x 0.8 | 0.08/0.31* | 0.21 | **8.39** | **7.59** |
| **142463ER** | SMT-1130L12A | Tubular-pull | 12 | 36 | 4.0 | 0.63 | 0.40 | 1.6 x 0.4 | 0.150 | 0.04 | **6.95** | **6.26** |
| **163803ER** | A420-067074-01 | Tubular-push | 12 | 43 | 3.4 | 0.75 | 0.17 | 2.0 x 0.6 | 0.156 | 0.10 | **9.95** | **7.65** |
| **149761ER** | SMT-1632S12A | Tubular-push | 12 | 21 | 7.0 | 1.50 | 0.24 | 2.5 x 0.6 | 0.098 | 0.10 | **10.95** | **9.86** |

†Open frame type dimensions: L" x W" x H"; *Dual shaft

## GBM Bipolar and Unipolar Stepper Motors

- Bearing type: ball
- Dielectric strength: 500V, 50Hz/minute
- 18" lead wires
- Ambient temperature: -10˚C to +55˚C
- Insulation resistance: 100MΩ @ 500VDC
- Use shaft coupler, P/N 161998ER (see web)

**GBM is an ISO-9001 Certified Company**



Bipolar Unipolar

Fig. 1

Fig. 2

Fig. 3

Fig.4

(Fig.5)

Fig. 6

| Part Number | Mfr. Cross Ref. No. | Fig. | Step Angle | No. of Phases | Drive System | Volt. (VDC) | Phase Resis. (Ohms) | Curr. (mA) | Phase Inductance (mH) | Detent Torque (g-cm) | Holding Torque (g-cm) | Mounting Hole Space Diagonal (in.) | Mounting Holes (in.) | Shaft Dia. (in.) | Shaft Length (in.) | Motor Dia. (in.) | Motor Height (in.) | Pricing 1 | Pricing 10 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **237526ER** | 48BYGH001 | 1 | 1.8˚ | 2 | Bipolar | 2 | 2.1 | 950 | 2.3 | 200 | 1700 | 1.22 | 0.10 | 0.200 | 0.95 | 1.67 | 1.34 | **$16.49** | **$14.85** |
| **237518ER** | 42BYG017 | 1 | 1.8˚ | 2 | Bipolar | 6.3 | 15 | 420 | 16 | 150 | 1400 | 1.22 | 0.10 | 0.200 | 0.51 | 1.67 | 1.34 | **16.49** | **14.85** |
| **155459ER** | 42BYG023* | 1 | 1.8˚ | 2 | Bipolar | 12 | 30 | 400 | 36 | 220 | 2100 | 1.73 | 0.1 | 0.197 | 0.6 | 1.7 | 1.3 | **17.95** | **16.29** |
| **237569ER** | 57BYG009 | 4 | 1.8˚ | 4 | Unipolar | 2.4 | 1 | 2400 | 1.5 | — | 5995 | 1.86 | 0.20 | 0.250 | 0.83 | 2.29 | 2.20 | **32.29** | **29.09** |
| **237551ER** | 57BYG008 | 4 | 1.8˚ | 4 | Unipolar | 4 | 3.1 | 1300 | 4.4 | — | 4996 | 1.86 | 0.20 | 0.250 | 0.83 | 2.29 | 2.01 | **29.95** | **26.95** |
| **237622ER** | 57BYGH802 | 5 | 1.8˚ | 4 | Unipolar | 4.8 | 3.2 | 1500 | 2.9 | — | 8157 | 1.86 | 0.20 | 0.250 | 0.83 | 2.24 | 2.20 | **37.69** | **33.95** |
| **223870ER** | 57BYG070 | 4 | 1.8˚ | 4 | Unipolar | 5.4 | 3.6 | 1500 | 6 | 977 | 8974 | 2.65 | 0.20 | 0.25 | 0.80 | 2.20 | 2.00 | **49.95** | **42.46** |
| **172646ER** | 42BYG205 | 6 | 1.8˚ | 4 | Unipolar | 9.6 | 75 | 480 | 15 | 220 | 2300 | 1.73 | 0.10 | 0.20 | 0.90 | 1.70 | 1.40 | **17.95** | **15.26** |
| **173180ER** | 30BYJ02AH[1] | 2 | .09˚ | 4 | Unipolar | 12 | 200 | 60 | 49.5 | 400 | 400 | 1.42 | 0.14 | 0.194 | 0.36 | 1.18 | .68 | **11.49** | **9.77** |
| **237542ER** | 57BYG007 | 4 | 1.8˚ | 4 | Unipolar | 12 | 32 | 380 | 30 | — | 2997 | 1.86 | 0.20 | 0.250 | 0.83 | 2.29 | 1.61 | **25.95** | **23.35** |
| **213321ER** | 35BY48-27 | 3 | 7.5˚ | 4 | Unipolar | 12 | 15 | 800 | 68 | 90 | 460 | 1.96 | 0.13 | 0.078 | 0.25 | 1.38 | 0.83 | $17.95 **8.95** | **7.61** |
| **162026ER** | 57BYG084 | 4 | 1.8˚ | 4 | Unipolar | 12 | 20 | 600 | 22 | 725 | 6000 | 2.65 | 0.2 | 0.250 | 1.0 | 2.2 | 2.0 | **26.95** | **24.29** |
| **224021ER** | 42BYG016 | 2 | 1.8˚ | 4 | Unipolar | 12 | 75 | 160 | 40 | 150 | 900 | 1.73 | 0.10 | 0.20 | 0.70 | 1.70 | 0.50 | **16.95** | **15.25** |
| **155432ER** | 42BYG228 | 2 | 1.8˚ | 4 | Unipolar | 12 | 30 | 400 | 23 | 220 | 2000 | 1.73 | 0.10 | 0.20 | 0.90 | 1.70 | 0.50 | **17.95** | **16.29** |

* Dual shaft [1] **173180ER:** Motor step angle 7.5˚; Gear ratio 85.25:1

## Bipolar and Unipolar Stepper Motors

- Excellent for precision control
- See website for compatible power supplies
- Can be operated in forward/reverse mode

Fig. 1

Fig. 2

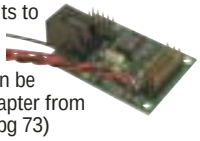
| Part Number | Mfr. Cross Ref. No. | Fig. | Step Angle | No. of Phases | Drive System | Volt. (VDC) | Phase Resis. (Ohms) | Curr. (mA) | Phase Inductance (mH) | Detent Torque (g-cm) | Holding Torque (g-cm) | Mounting Hole Space Diagonal (in.) | Mounting Holes (in.) | Shaft Dia. (in.) | Shaft Length (in.) | Motor Dia. (in.) | Motor Height (in.) | Pricing 1 | Pricing 10 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **117954ER** | LB82773-M1 | 1 | 7.5˚ | 2 | Bipolar | 5 | 6 | 800 | 7 | 100 | 1080 | 2.60 | 1.95 | 0.250 | 0.75 | 2.25 | 1.00 | **$4.29** | **$3.89** |
| **163395ER** | 5017-935 | 1 | 0.9˚ | 2 | Bipolar | 8.4 | 30 | 280 | 25 | 36 | 791 | 1.73 | 0.15 | 0.155 | 0.29 | 1.64 | 1.20 | **4.95** | **4.21** |
| **163408ER** | 4017-806[1] | 2 | 1.8˚ | 2 | Bipolar | 9.2 | 38 | 240 | 52 | 36 | 664 | 1.73 | 0.15 | 0.155 | 0.23 | 1.66 | 1.25 | **2.49** | **2.15** |
| **105881ER** | SM4203 | 2 | 3.6˚ | 2 | Bipolar | 12 | 25 | 480 | 31 | 80 | 600 | 1.73 | 0.11 | 0.197 | 0.43 | 1.66 | 1.31 | **6.49** | **5.85** |
| **171601ER** | PF35T484L[2] | 1 | 3.6˚ | 4 | Unipolar | 7 | 20 | 350 | 9 | 40 | 680 | 1.68 | 0.14 | 0.078 | 0.47 | 1.38 | 0.58 | **4.99** | **4.49** |

[1] **163408ER:** Dual shaft [2] **171601ER** Dual shaft with 10 tooth gear

Scott Edwards Electronics, Inc.

## Serial Servo Controller Module

- Controls 8 pulse-proportional servos
- Receives serially at 2400 or 9600 baud
- Addressable, allowing two units to share the same line to control a total of 16 servos
- Connections to serial input can be established using modular adapter from DB9 to RJ11 (P/N 114737ER, pg 73)
- Size (PCB): 1.9"L x 1.4"W



| Part No. | Description | 1 | 10 |
|---|---|---|---|
| **151001ER** | Serial servo controller module | **$43.95** | **$41.79** |

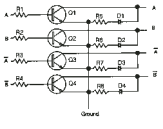
rmv electronics

## 12-Bit Stepper Motor Control and Analog/Digital DAC Board

- High speed serial port interface up to 230.4kbps
- 4 channels with precision signal conditioning – 100mV, 2.5V and 5.0V inputs
- 24 digital I/O (TTL) and 11 analog channels w/ 12-bit res.
- PWM, period measurement and stepper motor functions
- Free 32-bit DLL, OCX and Labview driver for rapid system development
- Size: 6.0"L x 2.6"W • Weight: 0.7 lbs.

**Requires:** External driver circuit parts kit (P/N 208573ER, below) – consisting of 5 ea. 1kΩ 1/4W resistors, 5 ea. 330Ω 1/4W resistors, 5 ea. MJE 3055T transistors, and 5 ea. 1N4003 diodes

**Driver Schematic**



| Part No. | Description | 1 | 10 |
|---|---|---|---|
| **109911ER** | Stepper motor control board — NEW | **$104.75** | **$94.29** |
| **208573ER** | Unipolar circuit parts kit — NEW | **3.49** | **3.15** |

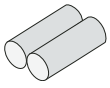
COLOR CODE LEGEND... NEW SALE REFURBISHED CLOSEOUT

## Battery Packs

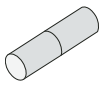
NEW

Rechargeable battery packs are available in many configurations and capacities. Each series-connected pack is offered w/ 6" wire leads & 0.125"W x 0.4"L solder tab hook-ups.
- AA Cell Size: 1.92"L x .56"Dia
- SC Cell Size: 1.65"L x .86" Dia
- D Cell Size: 2.36" L x 1.26"Dia

### 2.4 Volts

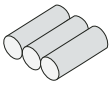


| Cell Size | Type | mAh | Jameco Part No. Solder Tabs | Pricing 1 | Pricing 10 | Jameco Part No. Lead Wires | Pricing 1 | Pricing 10 |
|---|---|---|---|---|---|---|---|---|
| AA | NiCD | 700 | 298097ER | $4.35 | $4.26 | 298935ER | $5.35 | $5.22 |
| AA | NiCD | 1000 | 298337ER | 5.35 | 4.87 | 299081ER | 6.55 | 6.32 |
| AA | NiMH | 1800 | 298484ER | 9.39 | 8.54 | 299233ER | 11.29 | 10.77 |
| SC | NiCD | 2200 | 298636ER | 10.35 | 9.82 | 299381ER | 11.29 | 10.77 |
| D | NiCD | 5000 | 298783ER | 24.75 | 22.25 | 299532ER | 24.75 | 22.25 |

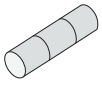


| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| AA | NiCD | 700 | 298214ER | 4.35 | 3.95 | 298960ER | 5.29 | 5.22 |
| AA | NiCD | 1000 | 298361ER | 5.39 | 4.90 | 299111ER | 6.55 | 6.34 |
| AA | NiMH | 1800 | 298513ER | 9.49 | 8.55 | 299268ER | 11.29 | 10.77 |
| SC | NiCD | 2200 | 298661ER | 10.35 | 9.82 | 299410ER | 11.29 | 10.77 |
| D | NiCD | 5000 | 298812ER | 24.69 | 22.24 | 299567ER | 24.69 | 22.24 |

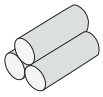
### 3.6 Volts



| Cell Size | Type | mAh | Jameco Part No. Solder Tabs | Pricing 1 | Pricing 10 | Jameco Part No. Lead Wire | Pricing 1 | Pricing 10 |
|---|---|---|---|---|---|---|---|---|
| AA | NiCD | 700 | 298193ER | $6.19 | $5.92 | 298943ER | $7.15 | $6.87 |
| AA | NiCD | 1000 | 298345ER | 8.05 | 7.31 | 299090ER | 9.35 | 8.61 |
| AA | NiMH | 1800 | 298492ER | 11.89 | 11.30 | 299276ER | 12.85 | 12.25 |
| SC | NiCD | 2200 | 298644ER | 12.25 | 11.00 | 299399ER | 13.19 | 11.95 |
| D | NiCD | 5000 | 298791ER | 35.25 | 31.70 | 299541ER | 36.19 | 32.65 |

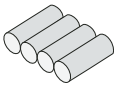


| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| AA | NiCD | 700 | 298222ER | 6.19 | 5.92 | 298978ER | 8.75 | 8.07 |
| AA | NiCD | 1000 | 298370ER | 8.09 | 7.34 | 299129ER | 9.35 | 8.57 |
| AA | NiMH | 1800 | 298521ER | 10.35 | 9.82 | 299241ER | 12.85 | 11.78 |
| SC | NiCD | 2200 | 298679ER | 12.25 | 11.02 | 299428ER | 13.19 | 11.97 |
| D | NiCD | 5000 | 298821ER | 35.25 | 31.70 | 299575ER | 36.19 | 32.65 |

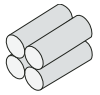


| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| AA | NiCD | 700 | 298302ER | 6.49 | 5.90 | 299057ER | 6.49 | 5.90 |
| AA | NiCD | 1000 | 298450ER | 8.05 | 7.32 | 299209ER | 8.05 | 7.31 |
| AA | NiMH | 1800 | 298601ER | 13.09 | 11.78 | 299356ER | 15.99 | 14.48 |
| SC | NiCD | 2200 | 298759ER | 15.09 | 13.53 | 299508ER | 16.05 | 14.48 |
| D | NiCD | 5000 | 298901ER | 41.49 | 37.34 | 299655ER | 37.09 | 33.37 |

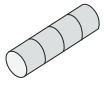
### 4.8 Volts



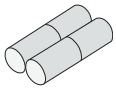
| Cell Size | Type | mAh | Jameco Part No. Solder Tabs | Pricing 1 | Pricing 10 | Jameco Part No. Lead Wire | Pricing 1 | Pricing 10 |
|---|---|---|---|---|---|---|---|---|
| AA | NiCD | 700 | 298206ER | $7.79 | $7.08 | 298951ER | $8.75 | $8.03 |
| AA | NiCD | 1000 | 298353ER | 10.69 | 9.62 | 299102ER | 11.65 | 10.57 |
| AA | NiMH | 1800 | 298505ER | 15.09 | 14.33 | 299250ER | 16.05 | 15.28 |
| SC | NiCD | 2200 | 298652ER | 15.45 | 13.90 | 299401ER | 16.39 | 14.85 |
| D | NiCD | 5000 | 298804ER | 44.49 | 40.05 | 299559ER | 45.45 | 41.00 |



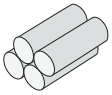
| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| AA | NiCD | 700 | 298249ER | 7.79 | 7.06 | 298994ER | 8.69 | 8.01 |
| AA | NiCD | 1000 | 298396ER | 10.69 | 9.60 | 299145ER | 11.65 | 10.55 |
| AA | NiMH | 1800 | 298548ER | 15.09 | 14.32 | 299292ER | 16.05 | 15.28 |
| SC | NiCD | 2200 | 298695ER | 15.45 | 13.64 | 299444ER | 16.39 | 14.85 |
| D | NiCD | 5000 | 298847ER | 44.35 | 39.89 | 299591ER | 45.29 | 40.84 |



| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| AA | NiCD | 700 | 298231ER | 7.85 | 7.12 | 298986ER | 8.75 | 8.07 |
| AA | NiCD | 1000 | 298388ER | 10.69 | 9.62 | 299137ER | 11.65 | 10.57 |
| AA | NiMH | 1800 | 298530ER | 11.89 | 11.30 | 299284ER | 16.05 | 15.28 |
| SC | NiCD | 2200 | 298687ER | 15.45 | 13.91 | 299436ER | 16.39 | 14.86 |
| D | NiCD | 5000 | 298839ER | 44.49 | 40.02 | 299583ER | 45.45 | 40.97 |

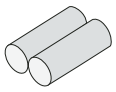


| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| AA | NiCD | 700 | 298273ER | 7.79 | 7.08 | 299022ER | 8.75 | 8.03 |
| AA | NiCD | 1000 | 298425ER | 10.69 | 9.62 | 299170ER | 11.65 | 10.57 |
| AA | NiMH | 1800 | 298572ER | 15.09 | 14.32 | 299321ER | 16.05 | 15.28 |
| SC | NiCD | 2200 | 298724ER | 15.45 | 13.90 | 299479ER | 16.39 | 14.85 |
| D | NiCD | 5000 | 298871ER | 44.49 | 40.03 | 299621ER | 45.45 | 40.98 |



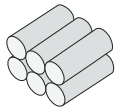
| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| AA | NiCD | 700 | 298311ER | 8.35 | 7.57 | 299065ER | 8.65 | 7.85 |
| AA | NiCD | 1000 | 298468ER | 10.79 | 9.73 | 299217ER | 12.19 | 11.08 |
| AA | NiMH | 1800 | 298610ER | 16.95 | 15.23 | 299364ER | 16.65 | 14.97 |
| SC | NiCD | 2200 | 298767ER | 16.95 | 15.23 | 299516ER | 17.89 | 16.18 |
| D | NiCD | 5000 | 298919ER | 47.19 | 42.46 | 299663ER | 48.15 | 43.41 |

### 6.0 Volts

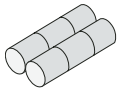


| Cell Size | Type | mAh | Jameco Part No. Solder Tabs | Pricing 1 | Pricing 10 | Jameco Part No. Lead Wires | Pricing 1 | Pricing 10 |
|---|---|---|---|---|---|---|---|---|
| AA | NiCD | 700 | 298329ER | $9.25 | $8.00 | 299073ER | $10.29 | $8.95 |
| AA | NiCD | 1000 | 298476ER | 11.25 | 10.13 | 299225ER | 13.25 | 11.08 |
| AA | NiMH | 1800 | 298628ER | 18.85 | 16.07 | 299372ER | 19.75 | 17.02 |
| SC | NiCD | 2200 | 298775ER | 18.79 | 15.99 | 299524ER | 19.75 | 16.94 |
| D | NiCD | 5000 | 298927ER | 52.85 | 44.92 | 299680ER | 53.79 | 45.87 |

### 7.2 Volts

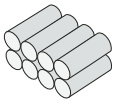


| Cell Size | Type | mAh | Jameco Part No. Solder Tabs | Pricing 1 | Pricing 10 | Jameco Part No. Lead Wires | Pricing 1 | Pricing 10 |
|---|---|---|---|---|---|---|---|---|
| AA | NiCD | 700 | 298257ER | $11.75 | $10.58 | 299006ER | $12.75 | $11.53 |
| AA | NiCD | 1000 | 298409ER | 15.99 | 14.40 | 299153ER | 16.95 | 15.35 |
| AA | NiMH | 1800 | 298556ER | 20.29 | 18.25 | 299305ER | 21.25 | 19.20 |
| SC | NiCD | 2200 | 298708ER | 23.15 | 20.81 | 299452ER | 24.09 | 21.76 |
| D | NiCD | 5000 | 298855ER | 66.49 | 59.83 | 299604ER | 67.45 | 60.78 |

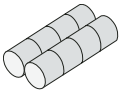


| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| AA | NiCD | 700 | 298281ER | 11.79 | 10.59 | 299031ER | 12.75 | 11.54 |
| AA | NiCD | 1000 | 298433ER | 16.01 | 14.41 | 299188ER | 16.95 | 15.36 |
| AA | NiMH | 1800 | 298581ER | 20.29 | 18.25 | 299330ER | 21.25 | 19.20 |
| SC | NiCD | 2200 | 298732ER | 23.15 | 20.82 | 299487ER | 24.09 | 21.77 |
| D | NiCD | 5000 | 298880ER | 66.49 | 59.83 | 299639ER | 67.45 | 60.78 |

### 9.6 Volts



| Cell Size | Type | mAh | Jameco Part No. Solder Tabs | Pricing 1 | Pricing 10 | Jameco Part No. Lead Wires | Pricing 1 | Pricing 10 |
|---|---|---|---|---|---|---|---|---|
| AA | NiCD | 700 | 298265ER | $15.69 | $14.12 | 299014ER | $16.65 | $15.07 |
| AA | NiCD | 1000 | 298417ER | 21.33 | 19.20 | 299161ER | 22.29 | 20.15 |
| AA | NiMH | 1800 | 298564ER | 26.35 | 23.70 | 299313ER | 27.29 | 24.65 |
| SC | NiCD | 2200 | 298716ER | 30.85 | 27.75 | 299461ER | 31.79 | 28.70 |
| D | NiCD | 5000 | 298863ER | 88.65 | 79.76 | 299612ER | 89.59 | 80.71 |



| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| AA | NiCD | 700 | 298290ER | 12.25 | 11.02 | 299049ER | 12.25 | 11.02 |
| AA | NiCD | 1000 | 298441ER | 15.18 | 13.66 | 299196ER | 16.15 | 14.61 |
| AA | NiMH | 1800 | 298599ER | 23.64 | 21.27 | 299348ER | 24.59 | 22.22 |
| SC | NiCD | 2200 | 298741ER | 24.49 | 22.03 | 299495ER | 25.45 | 22.98 |
| D | NiCD | 5000 | 298898ER | 63.35 | 57.01 | 299647ER | 64.29 | 57.96 |

## Energizer NiCAD Rechargeable Batteries for Cordless Phones

Energizer cordless phone batteries offer the long life and consistent reliable performance you need to get the most out of your cordless phone.

**249341ER**: Replaces: AT&T 2422 / 3000 / 4051; GE TL96155; GE/Sanyo GES-PCH03; Hi-capacity B-702; Panasonic P-P303PA; RCA BT-12; Sony BP-T27; South Western Bell S60506; V-Tech 80-5074-00-00

**249332ER**: Replaces: Sony SP-A2470 / SP-A9171 / SP-S9000 / SP-S9101 / SP-S9104

249341ER

249332ER

| Part No. | Product No. | Power (V/mAh) | 1 | 5 |
|---|---|---|---|---|
| 249341ER | P-3303 | 3.6 @ 300mAh | $7.95 | $7.55 |
| 249332ER | ER-P276 | 3.6 @ 600mAh | 13.95 | 13.25 |

## Solar Pocket Charger

Charge your batteries with free solar power. Inexpensive, easy and safe to use - no moving parts or cords. Re-energizes carbon-zinc, alkaline, nickel-cadmium (NiCAD), and nickel-metal-hydride (NiMH) batteries.

**Includes:** Battery adapter for AA, C, and D type batteries.

SALE

| Part No. | Description | Size (LxWxD) | 1 | 10 |
|---|---|---|---|---|
| 215239ER | Solar pocket charger | 3.6" x 3.1" x 1.5" | $26.35 | $23.69 |

## Rechargeable Batteries Application Handbook

***Butterworth-Heinemann*** Represents the first widely available compendium of information needed by design professionals responsible for using rechargeable batteries. This handbook introduces the most common forms of rechargeable batteries, including their history, the basic chemistry that governs their operation, and common design approaches. The introduction also exposes the reader to common battery design terms and concepts. (290 pages, 1998)

| Part No. | Description | |
|---|---|---|
| 305171ER | Rechargeable batteries handbook | $41.95 |

NEW

# Zinc Chloride, Alkaline, Lithium and NiCAD Batteries

## Zinc Chloride

| Part No. | Mfr. Cross Ref. | Figure | Size | Volts | mAh | Terminals/Connection | Dimensions | 1 | 10 | 25 |
|---|---|---|---|---|---|---|---|---|---|---|
| 151087ER | AA | 1 | AA | 1.5 | 700 | Barrel Pressure | 1.9"L x 0.545"Dia. | $.22 | $.20 | $.18 |
| 151095ER | GF6F22 | 2 | 9V | 9 | 300 | — | 1.7"L x 1.0"W x 0.67" Dia | 1.25 | .99 | .79 |

Fig. 1

Fig. 2

## Alkaline

| Part No. | Mfr. Cross Ref. | Figure | Size | Volts | mAh | Terminals/Connection | Dimensions | 1 | 10 | 25 |
|---|---|---|---|---|---|---|---|---|---|---|
| 249181ER | LR031.5V | 3 | AAA | 1.5 | — | 3-pack | 1.645"L x 0.404"Dia. | $1.49 | $1.27 | $.95 |
| 150965ER | 840 | 4 | — | 4.5 | 600 | Batt. Pack w/Con. (Apple®) | 1.14"L x 0.73"W x 0.96"H | 9.95 | 8.96 | 7.58 |
| 198791ER | MN1604 | 2 | 9V | 9 | 500 | — | 1.73"L x 1.03"W x 0.67"H | 2.85 | 2.55 | 2.29 |

Fig. 3

Fig. 4

Fig. 1

Fig. 2

Fig. 3

Fig. 4

Fig. 5

Fig. 6

Fig. 7

Fig. 8

## Lithium & Lithium Ion

| Part No. | Mfr. Cross Ref. | Figure | Size | Volts | mAh | Terminals/Connection | Dimensions | 1 | 10 | 25 |
|---|---|---|---|---|---|---|---|---|---|---|
| 240258ER | CR123A | 1 | — | 3 | 1300 | Photo/Computer | 1.36"L x 0.65"Dia. | $2.65 | $2.45 | $2.35 |
| 33371ER | TL5101P | 2 | 1/2 AA | 3.6 | 850 | Barrel w/Leads (Clock/Mem.) | 0.93"L x 0.56"Dia. | 5.79 | 5.27 | 4.45 |
| 33398ER | TL5104P | 3 | AA | 3.6 | 1900 | Barrel w/Leads (Clock/Mem.) | 1.88"L x 0.56"Dia. | 5.95 | 5.49 | 5.19 |
| 146114ER | TL2100S | 4 | AA | 3.6 | 1900 | Barrel Pres. (Clock/Mem.) | 1.91"L x 0.56"Dia. | 6.95 | 6.29 | 5.65 |
| 240186ER | CR1616 | — | Coin Cell | 3 | 55 | Clock/memory/watch | 0.07"Dia. x 0.61"Th. | .69 | .63 | .60 |
| 240207ER | CR2016 | — | Coin Cell | 3 | 75 | Clock/memory/watch | 0.07"Dia. x 0.79"Th. | .38 | .36 | .34 |
| 240215ER | CR2025 | — | Coin Cell | 3 | 150 | Clock/memory/watch | 0.10"Dia. x 0.78"Th. | .32 | .30 | .28 |
| 11789ER | CR2325 | 5 | Coin Cell | 3 | 165 | Clock/memory/watch | 0.91"Dia. x 0.13"Th. | 1.65 | 1.47 | 1.25 |
| 14162ER | CR2032 | — | Coin Cell | 3 | 180 | Clock/memory/watch | 0.79"Dia. x 0.13"Th. | 1.25 | 1.00 | .75 |
| 240223ER | CR2335 | — | Coin Cell | 3 | 300 | Clock/memory/watch | 0.14"Dia. x 0.92"Th. | 1.22 | 1.11 | 1.00 |
| 240231ER | CR2450 | — | Coin Cell | 3 | 500 | Clock/memory/watch | 0.18"Dia. x 0.97"Th. | 1.09 | .98 | .78 |
| 126754ER | TL5101S | 6 | Sub-AA | 3.6 | 850 | Macintosh® | 0.95"L x 0.56"Th. | 6.95 | 6.29 | 5.65 |
| 240266ER | ER14250 | 7 | Sub-AA | 3.6 | 1000 | Consumer Tip | 1.00"L x 0.55"Dia. | 3.99 | 3.89 | 3.81 |
| 263951ER | ER14335 | 8 | Sub-AA | 3.6 | 1450 | With solder tabs | 1.30"L x 0.55"Dia. | 4.59 | 4.43 | 4.19 |
| 240282ER | ER14335 | 9 | Sub-AA | 3.6 | 1450 | Consumer Tip | 1.30"L x 0.55"Dia. | 4.59 | 4.45 | 4.19 |
| 240303ER | ER14505 | 10 | AA | 3.6 | 2400 | Consumer Tip | 2.00"L x 0.55"Dia. | 5.19 | 4.85 | 4.55 |
| 263935ER | ER14505 | 11 | AA | 3.6 | 2100 | With solder tabs | 2.00"L x 0.55"Dia. | 4.99 | 4.75 | 4.52 |
| 263943ER | ER14505 | 12 | AA | 3.6 | 2100 | With axial leads | 2.00"L x 0.57"Dia. | 5.35 | 4.99 | 4.70 |
| 240320ER | ER17335 | 13 | Sub-A | 3.6 | 1450 | Consumer Tip | 1.30"L x 0.67"Dia. | 5.25 | 4.75 | 4.39 |
| 240160ER | ER26500 | 14 | C | 3.6 | 8500 | Consumer Tip | 2.00"L x 1.02"Dia. | 11.95 | 11.50 | 11.05 |
| 240151ER | ER34615 | 15 | D | 3.6 | 16500 | Consumer Tip | 2.40"L x 1.34"Dia. | 15.05 | 14.49 | 13.95 |
| 244646ER | UR18650H1 | 16 | — | 3.6 | 2200 | Flat Top Lithium Ion (rechargeable) | 2.60"L x 0.71"Dia. | 17.55 | 15.79 | 14.21 |

Fig. 9

Fig. 10

Fig. 11

Fig. 12

Fig. 13

Fig. 14

Fig. 15

Fig. 16

Fig. 17

Fig. 18

## NiCAD - Rechargeable

| Part No. | Mfr. Cross Ref. | Figure | Size | Volts | mAh | Terminals/Connection | Dimensions | 1 | 10 | 25 |
|---|---|---|---|---|---|---|---|---|---|---|
| 244662ER | AAA-240 | 17 | AAA | 1.2 | 240 | Flat top | 1.70"L x 0.40"Dia. | $1.89 | $1.85 | $1.80 |
| 244540ER | AAA-240-CT | 18 | AAA | 1.2 | 240 | Consumer Tip | 1.70"L x 0.40"Dia. | 1.89 | 1.85 | 1.80 |
| 244380ER | 2/3AA-320 | 19 | 2/3AA | 1.2 | 320 | Flat Top | 1.10"L x 0.55"Dia. | 1.35 | 1.17 | 1.09 |
| 244443ER | 4/5AA-600 | 20 | 4/5AA | 1.2 | 600 | Flat Top | 1.70"L x 0.55"Dia. | 1.15 | 1.03 | .93 |
| 244486ER | AA-600 | 21 | AA | 1.2 | 600 | Flat Top | 1.90"L x 0.55"Dia. | 1.25 | 1.22 | 1.19 |
| 261657ER | AA-700-CT | 22 | AA | 1.2 | 700 | Consumer Tip | 1.90"L x 0.55"Dia. | 1.37 | 1.25 | .96 |
| 244515ER | AA-1000-CT | 22 | AA | 1.2 | 1000 | Consumer Tip | 1.90"L x 0.55"Dia. | 2.65 | 2.43 | 2.33 |
| 244507ER | AA-1000 | 21 | AA | 1.2 | 1000 | Flat Top | 1.90"L x 0.55"Dia. | 2.65 | 2.43 | 2.33 |
| 244355ER | 1/3A-250 | 23 | 1/3A | 1.2 | 250 | Flat Top | 0.65"L x 0.65"Dia. | 1.31 | 1.18 | 1.06 |
| 244371ER | 2/3A-650 | 24 | 2/3A | 1.2 | 650 | Flat Top | 1.10"L x 0.65"Dia. | 1.79 | 1.65 | 1.60 |
| 244603ER | TY-2/3A-1100HD | 24 | 2/3A | 1.2 | 1100 | Flat Top | 1.10"L x 0.65"Dia. | 1.99 | 1.81 | 1.71 |
| 244427ER | 4/5A-1100 | 25 | 4/5A | 1.2 | 1100 | Flat Top | 1.70"L x 0.65"Dia. | 1.65 | 1.45 | 1.39 |
| 244363ER | 1/3C-700 | — | 1/3C | 1.2 | 700 | Flat Top | 0.87"L x 1.00"Dia. | 2.59 | 2.33 | 2.10 |
| 244339ER | 1/2C-800 | 26 | 1/2C | 1.2 | 800 | Flat Top | 0.95"L x 1.00"Dia. | 2.87 | 2.58 | 2.32 |
| 244574ER | SC-1500 | 27 | Sub-C | 1.2 | 1500 | Flat Top | 1.70"L x 0.89"Dia. | 2.15 | 1.98 | 1.87 |
| 244953ER | SC-1500HT | 27 | Sub-C | 1.2 | 1500 | Flat Top, High Temp. | 1.70"L x 0.89"Dia. | 2.39 | 2.14 | 2.00 |
| 244654ER | SC-1900 | 27 | Sub-C | 1.2 | 1900 | Flat Top | 1.70"L x 0.89"Dia. | 3.68 | 3.23 | 3.08 |
| 244671ER | C-2000 | 28 | C | 1.2 | 2000 | Flat Top | 1.90"L x 1.00"Dia. | 4.25 | 3.96 | 3.92 |

Fig. 19

Fig. 20

Fig. 21

Fig. 22

Fig. 23

Fig. 24

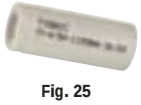


Fig. 25

Fig. 26

Fig. 27

Fig. 28

*More Batteries Located On Our Website - www.Jameco.com*

Don't forget to stock up on your batteries for the holidays!

COLOR CODE LEGEND... NEW SALE REFURBISHED CLOSEOUT

# NiCAD and NiMH Batteries (continued)

Fig. 1

Fig. 2

Fig. 3

Fig. 4

Fig. 5

Fig. 6

Fig. 7

Fig. 8

## NiCAD - Rechargeable (continued)

| Part No. | Mfr. Cross Ref. | Figure | Size | Volts | mAh | Terminals/Connection | Dimensions | 1 | 10 | 25 |
|---|---|---|---|---|---|---|---|---|---|---|
| 244523ER | C-2200-CT | 1 | C | 1.2 | 2200 | Consumer Tip | 1.90"L x 1.00"Dia. | $4.25 | $3.96 | $3.92 |
| 244531ER | C-2500-CT | 1 | C | 1.2 | 2500 | Consumer Tip | 1.90"L x 1.00"Dia. | 5.15 | 4.86 | 4.65 |
| 244961ER | C-2500HT | 2 | C | 1.2 | 2500 | Flat Top, High Temp | 1.90"L x 1.00"Dia. | 5.25 | 4.74 | 4.60 |
| 244689ER | C-2500 | 2 | C | 1.2 | 2500 | Flat Top | 1.90"L x 1.00"Dia. | 5.15 | 4.86 | 4.65 |
| 244398ER | 2/3SC-650 | 3 | 2/3SC | 1.2 | 650 | Flat Top | 1.00"L x 0.89"Dia. | 2.85 | 2.50 | 2.36 |
| 244401ER | 2/3SC-700 | 3 | 2/3SC | 1.2 | 700 | Flat Top | 1.00"L x 0.89"Dia. | 3.15 | 2.73 | 2.52 |
| 244451ER | 4/5SC-1250 | — | 4/5SC | 1.2 | 1250 | Flat Top | 1.30"L x 0.89"Dia. | 2.85 | 2.56 | 2.35 |
| 244460ER | 5/4SC-2300 | — | 5/4SC | 1.2 | 2300 | Flat Top | 1.90"L x 0.89"Dia. | 6.05 | 5.57 | 5.05 |
| 244347ER | 1/2D-2200 | 4 | 1/2D | 1.2 | 2200 | Flat Top | 1.40"L x 1.30"Dia. | 4.29 | 4.05 | 3.85 |
| 244566ER | 2/3D-2800 | — | 2/3D | 1.2 | 2800 | Flat Top | 1.70"L x 1.30"Dia. | 5.25 | 4.73 | 4.35 |
| 244697ER | D-5000 | 5 | D | 1.2 | 5000 | Flat Top | 2.40"L x 1.30"Dia. | 7.79 | 7.60 | 7.45 |
| 244558ER | D-5000-CT | 6 | D | 1.2 | 5000 | Consumer Tip | 2.40"L x 1.30"Dia. | 7.79 | 7.60 | 7.45 |
| 244419ER | 3/2D(F)-8000 | 7 | F | 1.2 | 8000 | Flat Top | 3.45"L x 1.30"Dia. | 20.55 | 18.89 | 16.99 |

Fig. 9

Fig. 10

Fig. 11

Fig. 12

Fig. 13

Fig. 14

## NiMH - Rechargeable

| Part No. | Mfr. Cross Ref. | Figure | Size | Volts | mAh | Terminals/Connection | Dimensions | 1 | 10 | 25 |
|---|---|---|---|---|---|---|---|---|---|---|
| 244937ER | PRIZ-F6(48)-700 | — | — | 1.2 | 700 | Flat Top-Prizmatic | 1.86"L x 0.65"W x 0.23"T | $3.12 | $2.81 | $2.53 |
| 244945ER | PRIZ-7/5F6-1100 | 8 | — | 1.2 | 1100 | Flat Top-Prizmatic | 2.63"L x 0.65"W x 0.23"T | 4.11 | 3.69 | 3.33 |
| 244582ER | 2/3AAA-300 | 9 | 2/3AAA | 1.2 | 300 | Flat Top | 1.11"L x 0.40"Dia. | 1.49 | 1.25 | .99 |
| 244785ER | 5/4AAA-750 | 10 | 5/4AAA | 1.2 | 750 | Flat Top | 2.00"L x 0.40"Dia. | 2.29 | 2.11 | 2.05 |
| 261665ER | AAA-700FT | 11 | AAA | 1.2 | 700 | Flat Top | 1.70"L x 0.40"Dia. | 2.21 | 1.99 | 1.91 |
| 244806ER | 4/5AA-1200 | 12 | 4/5AA | 1.2 | 1200 | Flat Top | 1.70"L x 0.55"Dia. | 3.25 | 2.93 | 2.63 |
| 244814ER | AA-1800 | 13 | AA | 1.2 | 1800 | Flat Top | 1.90"L x 0.55"Dia. | 2.35 | 2.12 | 1.99 |
| 244822ER | AA-1800-CT | 14 | AA | 1.2 | 1800 | Consumer Tip | 1.90"L x 0.55"Dia. | 2.35 | 2.12 | 1.99 |
| 244831ER | 4/3AA-1900 | 15 | 4/3AA | 1.2 | 1900 | Flat Top | 2.60"L x 0.55"Dia. | 6.89 | 6.20 | 5.58 |
| 244857ER | 2/3A-1100 | 16 | 2/3A | 1.2 | 1100 | Flat Top | 1.10"L x 0.65"Dia. | 3.59 | 3.07 | 2.99 |
| 244864ER | 4/5A-1800 | 17 | 4/5A | 1.2 | 1800 | Flat Top | 1.70"L x 0.65"Dia. | 3.15 | 2.97 | 2.78 |
| 244970ER | A-2200 | 18 | A | 1.2 | 2200 | Flat Top | 1.90"L x 0.65"Dia. | 3.69 | 3.49 | 3.25 |
| 244620ER | 9V-200 | 19 | 9V | 9 | 200 | Flat Top | 1.94"L x 0.65"Dia. | 7.79 | 6.92 | 6.22 |
| 244873ER | 4/3A-2500 | 20 | 4/3A | 1.2 | 2500 | Flat Top | 2.60"L x 0.65"Dia. | 5.29 | 5.01 | 4.68 |
| 244890ER | SC-2900-HD | 21 | Sub-C | 1.2 | 2900 | Flat Top, High Discharge | 1.70"L x 0.90"Dia. | 6.49 | 6.04 | 5.89 |
| 244902ER | D-9000 | 22 | D | 1.2 | 9000 | Flat Top | 2.40"L x 1.30"Dia. | 21.44 | 17.54 | 16.08 |
| 244911ER | D-9000-CT | 22 | D | 1.2 | 9000 | Consumer Tip | 2.40"L x 1.30"Dia. | 21.44 | 17.54 | 16.08 |

Fig. 15

Fig. 16

Fig. 17

Fig. 18

Fig. 19

Fig. 20

Fig. 21

Fig. 22

DANTONA INDUSTRIES

## Long-Lasting Rechargeable NiMH Batteries & Chargers

Why buy & throw away hundreds of batteries? Now you can reuse longer-lasting, money saving NiMH rechargeable batteries instead! They feature twice the power of NiCAD batteries, so they're ideal for power-hungry devices like digital cameras and camcorders. The chargers below are specifically designed for NiMH batteries.

231095ER 231087ER 231116ER 231124ER 231108ER

### NiMH Batteries

| Part No. | Description | 1 | 10 |
|---|---|---|---|
| 231095ER | 2x AAA, 600mAh | $6.95 | $6.25 |
| 231087ER | 4x AA, 1600mAh | 13.95 | 12.55 |
| 231116ER | 2x C, 3000mAh | 10.49 | 9.45 |
| 231124ER | 2x D, 7000mAh | 19.59 | 17.65 |
| 231108ER | 1x "9V", 150mAh | 8.39 | 7.95 |

### NiMH Chargers

**231141ER:** Compact battery charger with 4 AA batteries
**231132ER:** Universal battery charger for AAA, AA, C, D and "9V" cells (batteries not included)

- Selector switch for NiCAD or NiMH type batteries
- Recharge batteries in singles or in groups
- Automatic charging current selection for different size of batteries
- Fast charging in the specified period with automatic switch for trickle charge
- LED lamp to indicate proper charging • Built-in IC timer control

Free Batteries

231141ER

231132ER

| Part No. | Description | 1 | 5 |
|---|---|---|---|
| 231141ER | Compact AA charger | $19.95 | $17.95 |
| 231132ER | Universal charger | 19.95 | 17.95 |

## NiMH & NiCAD Battery Charger

Charge your AA or AAA NiMH and AA NiCAD batteries with this 8-hour battery charger. Simply plug into a wall outlet. Red LED indicates charging and green LED indicates ready to use.

- Charging bay allows 4AA or 4AAA batteries to be charged at the same time (only AA NiCAD)
- Output: 4AA 1.35V @ 250mA or 4AAA 1.35V @ 95mA
- Size: 2.8" x 2.4" x 4.6" • Weight: 1.0 lb.

SALE

| Part No. | Description | 1 | 10 |
|---|---|---|---|
| 217533ER | Plug-in charger *Was ~~$5.49~~* | $4.29 | $3.88 |

## Compactly Designed Battery Tester

Simply lift the swivel arm of this battery tester, place your battery between the contacts and it will provide you a voltage measurement of your batteries. Tests AAA, AA, C, D, 9V, and button cell batteries.

| Part No. | Description | Price |
|---|---|---|
| 239556ER | Compact battery tester | $4.99 |

## Lead Acid Batteries

- Sealed
- UL approved
- Rechargeable
- Two-year warranty

TYSONIC

264014ER

264022ER

264031ER

264049ER

264057ER

264065ER

264073ER

| Part Number | Product Number | Nominal Voltage | Amp-Hrs. | Cross Reference: Panasonic | YUASA | Eagle Picher | Tempest | Terminal Size | Size (L" x W" x H") | Wt. (lbs.) | Pricing: 1 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 264014ER | TY-6-4.5 | 6 | 4.5 | LCR6VP | NP4-6 | CF16V4 | TR-4-6 | Quick Connect 0.187" | 2.8 x 1.9 x 4.0 | 1.9 | $8.99 | $7.89 |
| 264022ER | TY-6-10 | 6 | 10.0 | LCR6V10P | NP10-6 | CFM6V10 | TR10-6 | Quick Connect 0.187" | 5.9 x 2.0 x 3.9 | 4.6 | 14.45 | 12.97 |
| 264031ER | TY-12-2.3 | 12 | 2.3 | LCR12V2.2P | NP2.3-12 | CF12V1.5 | TR2.3-12 | Quick Connect 0.187" | 7.0 x 1.3 x 2.4 | 2.1 | 15.39 | 14.59 |
| 264049ER | TY-12-4.5 | 12 | 4.5 | LCR12V4PF | NP412 | CF12V4 | TR4-12 | Quick Connect 0.187" | 3.5 x 2.8 x 4.0 | 3.8 | 15.79 | 14.55 |
| 264057ER | TY-12-7 | 12 | 7.0 | LCR12V7.2BP | NP712 | CFM12V65 | TR7.5-12 | Quick Connect 0.187" | 5.9 x 2.6 x 3.7 | 5.6 | 16.95 | 15.15 |
| 264065ER | TY-12-12 | 12 | 12.0 | PS12120 | — | CFM12V12 | TR12-12 | Quick Connect 0.187" | 5.9 x 3.9 x 3.9 | 9.0 | 30.65 | 28.25 |
| 264073ER | TY-12-18 | 12 | 18.0 | LCR12V17BP | NPG18-12 | CF12V18 | TR18-12 | Quick Connect 0.472" | 7.1 x 3.0 x 6.6 | 13.3 | 32.85 | 28.15 |

## Battery Holders, Snaps and Clip

Eliminate battery retention problems in portable DC power applications and products. High-retention snaps are made from special materials that maintain retention properties longer than conventional snaps. They can be with leads, or attached to battery holders.

Fig. 1

Fig. 2

Fig. 3

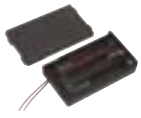


Fig. 4

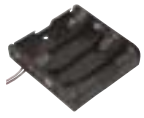


Fig. 5

Fig. 6

Fig. 7

Fig. 8

Fig. 9

Fig. 10

Fig. 11

| Part No. | Mfr. Cross Ref. | Fig. | Cells | Connector | Sides | Features | 1 | 10 |
|---|---|---|---|---|---|---|---|---|
| 216080ER | BH-321-2A | 2 | 2-AA | Wires | Single | | $.69 | $.59 |
| 216119ER | SBH-321-1AS | 3 | 2-AA | Wires | Single | Cover/switch | .79 | .69 |
| 216143ER | SBH-331-AS | 4 | 3-AA | Wires | Single | Cover/switch | .99 | .79 |
| 105857ER | ✳ | 8 | 4-AA | Wires | Single | Wires w/ conn. | .89 | .75 |
| 216178ER | BH-343-1A | 6 | 4-AA | Wires | Dual | ~~$0.75~~ | .65 | .55 |
| 216186ER | SBH-341-1AS | 9 | 4-AA | Wires | Single | Cover & switch | 1.09 | .89 |
| 216258ER | BH-382-B | 10 | 8-AA | Snaps | Dual | | 1.19 | .99 |
| 216311ER | SBH-431-1AS | 4 | 3-AAA | Wires | Single | Cover & switch | .79 | .69 |
| 216320ER | BH-441-1A | 5 | 4-AAA | Wires | Single | ~~$0.99~~ | .89 | .80 |
| 216354ER | BH-221-A | 2 | 2-C | Wires | Single | | 1.09 | .98 |
| 216362ER | BH-242-1A | 7 | 4-C | Wires | Single | | 1.39 | 1.29 |
| 216389ER | BH-121-1A | 2 | 2-D | Wires | Single | | .89 | .75 |
| 216418ER | BH-143-1A | 5 | 4-D | Wires | Single | | 1.15 | .89 |
| 216426ER | BH-9V-A | 1 | 1-9V | Wires | Single | | .79 | .69 |
| 38535ER | 2S2032 | 11 | 1-CR2032 | PC Mount | Coin Cell | | .59 | .49 |

✳ Battery holder used in many personal computers

## 9-Volt Battery Snaps and Clip

- Use with standard "9 volt" batteries
- Fully insulated; nickel-plated brass contacts
- Leads are color-coded, stripped and pre-tinned
- Snap: male outer dia. = 0.225"
- Female inner dia.: 0.215"

✳ 10 piece minimum

Fig. 1

Fig. 2

Fig. 3

Fig. 4

| Part Number | Fig. | Description | Dimensions (in.) L | W | H | Pricing 1 | 10 |
|---|---|---|---|---|---|---|---|
| 11279ER | 1 | 3", 26 AWG, 6 prong battery snap | 1.0 | .50 | – | $.25 | $.22 |
| 105793ER | 2 | Battery holder clip | .63 | .71 | 1.2 | .28 | .23 |
| 109153ER | 3 | 6", 26 AWG, 6 prong battery snap | 1.0 | .50 | – | ✳ | .17 |
| 101469ER | 3 | 10", 26 AWG, 6 prong battery snap | 1.0 | .50 | – | .29 | .25 |
| 216451ER | 4 | 6", 26 AWG, 6 prong battery snap | 1.0 | .50 | – | .34 | .30 |

# Fuses

## 1¼" x ¼" Standard Fuses

### *Fast Acting Fuses (250V) AGC/3AG Fuses*

- **Prepackaged: order in increments of 10 or 100**

| Part No. | Amps | Manufacturer | 10 | 100 |
|---|---|---|---|---|
| 69403ER | 250mA | Various | $.20 | $.18 |
| 10410ER | 500mA | Various | .20 | .18 |
| 10372ER | 1 amp | Various | .20 | .12 |
| 10381ER | 2 amp | Various | .20 | .12 |
| 69438ER | 3 amp | Various | .20 | .12 |
| 197544ER | 4 amp | Various | .22 | .20 |
| 10401ER | 5 amp | Various | .22 | .20 |
| 197552ER | 6.3 amp | Various | .22 | .20 |
| 69462ER | 10 amp | Various | .25 | .22 |
| 186301ER | 16 amp | Various | .25 | .22 |

### *Slow Blow Fuses (250V) MDL/3AG Fuses*

| Part No. | Amps | Manufacturer | 1 | 10 |
|---|---|---|---|---|
| 25638ER | 1 amp | Various | $.71 | $.59 |
| 25646ER | 2 amp | Various | .54 | .43 |
| 69534ER | 3 amp | Various | .54 | .44 |
| 25671ER | 5 amp | Various | .54 | .44 |
| 69569ER | 10 amp | Various | .74 | .65 |

## 5mm x 20mm Minature Fuses

### *Fast Acting (250V) GMA Fuses*

- Recommended for new designs
- **Prepackaged: order in increments of 10 or 100**

| Part No. | Amps | Manufacturer | 10 | 100 |
|---|---|---|---|---|
| 103886ER | 250mA | Various | $.20 | $.15 |
| 102040ER | 500mA | Various | .20 | .15 |
| 103907ER | 1 amp | Various | .20 | .15 |
| 103915ER | 2 amp | Various | .20 | .15 |
| 103923ER | 3 amp | Various | .20 | .15 |
| 103931ER | 5 amp | Various | .20 | .15 |

### *Slow Blow Fuses (250V) GMA Fuses*

- **Prepackaged: order in increments of 10 or 100**

| Part No. | Amps | Mfr. | 10 | 100 |
|---|---|---|---|---|
| 197501ER | 500mA | Various | $.29 | $.26 |
| 197464ER | 1 amp | Various | .29 | .25 |
| 197472ER | 2 amp | Various | .35 | .32 |
| 197481ER | 3.15 amp | Various | .35 | .32 |
| 197499ER | 5 amp | Various | .35 | .32 |

***Fuse Holders @ www.Jameco.com***

## Fuse Clips

102859ER 102841ER

- Low profile
- Low contact resistance
- Withstands shock and vibration
- **Prepackaged: order in increments of 10 or 100**

| Part No. | Description | 10 | 100 |
|---|---|---|---|
| 102859ER | 5mm, front leads | $.12 | $.09 |
| 119280ER | 5mm, side leads | .09 | .08 |
| 102841ER | 1/4", front leads (10A) | .09 | .08 |

## In-Line Fuse Holders

- Built-in spring ensures good fuse connection
- 1¼" x 1/4" standard
- Vinyl covered wire with stranded copper center
- Wire color: red; except for P/N 108783ER orange

102867ER

| Part No. | AWG | Wire Lgths | Body Size(L) | Body Color | 1 | 10 |
|---|---|---|---|---|---|---|
| 102867ER | 20 | 3/3" | 2.2" | White | $.65 | $.58 |
| 151917ER | 18 | 6/6" | 2.4" | White | .99 | .85 |
| 108783ER | 16 | 21/26" | 2.2" | Black | .99 | .87 |
| 108791ER | 14 | 19/25" | 2.5" | Black | 1.59 | 1.45 |

COLOR CODE LEGEND... NEW SALE REFURBISHED CLOSEOUT

## 20 x 4 Serial LCD Modules

150957ER

157323ER

- 20 characters x 4 line display with large digit mode
- Backlight control, bar graphs, large digits, multiple displays, software contrast control, auto line wrapping and auto scroll feature
- Backlight supply current: 90mA typical
- Serial input at 1200–19,200bps (jumper selectable)
- Connect 16 modules using the same 2 wire interface
- Display size: 3.0"L x 1.0"W

**Includes:** Manual and software

**150957ER: 20 x 4 Serial LCD Module**
- Power requirement: 5VDC @ 10mA typical (recommend P/N 164101ER, pg 38)

**157323ER: 20 x 4 Serial LCD Module with keypad Interface**
- Power requirement: 5VDC @ 16mA typical (recommend P/N 164101ER, pg 38)

| Part No. | Product No. | Description | Module Size (LxWxT) | 1 | 10 |
|---|---|---|---|---|---|
| 150957ER | LCD2041 | LCD module | 3.9" x 2.4" x 0.7" | $54.19 | $52.69 |
| 157323ER | LK204-25 | Module w/ interface | 3.7" x 2.4" x 1.1" | 72.95 | 71.15 |

## 16 Characters x 2 Lines Serial LCD Module

- Backlight control, bar graphs, large digits, multiple displays, software contrast control, auto line wrapping, and auto scroll feature
- Serial input at 1200–19,200bps (jumper selectable)
- Connect 16 modules using same 2 wire interface
- Backlight supply current: 40mA typical
- Display size: 2.5"L x 0.7"W
- Power requirement: 5VDC @ 9mA (recommend P/N 164101ER, pg 38)

**Includes:** Manual and software

| Part No. | Product No. | Description | Module Size (LxWxT) | 1 | 10 |
|---|---|---|---|---|---|
| 174166ER | LK162-12 | 16 x 2 w/ interface | 3.2" x 1.5" x 0.8" | $52.39 | $51.19 |

## 0.6" High 3½-Digit LCD Digital Panel Meters

175951ER

- Automatic polarity indication
- Input impedance: >100MΩ
- Input Ranges: 200mV, 20V, 200V, 500V
- Bezel • Accuracy: ±0.5%
- Dimensions: 2.7"L x 1.7"W
- Supply voltage: 8-12VDC (recommend 9V battery P/N 151095ER, pg 47)

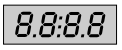
| Part No. | Description | 1 | 10 |
|---|---|---|---|
| 108388ER | PM-428 | $12.95 | $11.95 |
| 175951ER | "1999" LCD DPM | 12.95 | 11.95 |
| 146835ER | "1999" LCD DPM backlit display | 19.95 | 17.99 |

## 40 x 2 Parallel LCD Module with Backlight

- 40 x 2 character display
- Control chip HCD44780
- Character font: 5 x 8 dots
- Column driver: KS0063B
- Backlight: yellow-green
- Display size: 5.81"L x 0.45"W
- Supply voltage (logic): 5VDC @ 5mA
- Module size: 7.2"L x 1.4"W x 0.4" Thick

| Part No. | Description | 1 | 10 |
|---|---|---|---|
| 215159ER | 40 x 2 parallel LCD | $29.99 | $25.49 |

## VL 0.5" High 4-Digit Field Effect LCD Display



- Compatible with socket P/N 78641ER (2), pg 32
- Pin spacing: 0.1" centers
- 40-pin package (no connector required)
- Size: 2.0"L x 1.2"H x 0.1"D
- Digital multimeters, thermometers, pressure gauges, timers, clocks (12 or 24 hour format) and frequency counters

| Part No. | Product No. | | 1 | 10 |
|---|---|---|---|---|
| 17110ER | 402-DP-RC-S — NEW | | $14.95 | $13.49 |

## LCD Parallel Displays

- 8-bit interface data bus
- Controller: KS0066U or equivalent
- Character font size: 0.125"W x 0.200"H
- Maximum input voltage: 5.3VDC
- Operating input voltage: 5VDC (recommend P/N 164101ER, pg 38)

**171715ER: 16 Characters x 2 Lines** • Display size: 2.5"L x 0.7"W

**171723ER: 20 Characters x 2 Lines** • Display size: 3.3"L x 0.7"W

| Part No. | Product No. | Module Size (LxWxT) | 1 | 10 |
|---|---|---|---|---|
| 171715ER | AC162A | 3.4" x 1.2" x 0.5" | $19.95 | $17.95 |
| 171723ER | AC162A | 4.6" x 1.5" x 0.4" | 24.95 | 22.49 |

## 16 x 2 Parallel LCD Display with Backlight

- 16 characters x 2 lines
- Character font: 5 x 7 dots
- Input voltage: 5VDC @ 1.6mA
- 14-pin terminal
- 8-bit interface
- Display size: 2.6"L x 0.7"W x 0.4"T
- Module size: 3.3"L x 1.4"W x 0.5"T

| Part No. | Product No. | 1 | 10 |
|---|---|---|---|
| 277384ER | PVC160204A — NEW | $11.85 | $10.25 |

## 16 x 4 Parallel LCD Display

- 4-bit or 8-bit parallel interface • 5 x 8 dot matrix
- Control LSI HD44780 or equivalent and column driver MSM5259 or equivalent
- Display size: 2.4"L x 1.0"H

| Part No. | Description | Module Size (LxWxT) | 1 | 10 |
|---|---|---|---|---|
| 210761ER | 16 x 4 LCD display | 3.4" x 2.4" x 0.3" | $22.95 | $19.95 |

## Scott Edwards Electronics, Inc. Serial LCD Modules

Includes instruction codes for character gen., cursor control, printing, etc. Examples for Stamps in PBASIC included.

*Ideal for use w/ BASIC Stamps (pg 104), 80C52-BASIC controllers (pg 7) and PCs!*

### *16 characters x 2 lines Integrated Display*

- Terminal style 1200–9600bps serial input with 16-byte input buffer
- EEPROM storage of settings, six custom characters, and a splash screen
- Serial control of the standard LED backlight
- Low current draw; 5mA (backlight off) to 40mA (backlight on and bright)
- Power requirement: 4.8 – 5.5VDC @ 5mA (recommend P/N 164101ER, pg 38)

| Part No. | Product No. | Description | Module Size (LxWxT) | 1 | 10 |
|---|---|---|---|---|---|
| 150990ER | ILM-216L | LCD module | 3.2" x 2.0" x 0.5" | $48.95 | $44.09 |

### *16 characters x 2 lines LCD Serial Backpack®*

- High-contrast supertwist display
- Serial "backpack" accepts RS-232, or inverted CMOS, TTL at 2400 or 9600bps
- Power requirement: 4.8 – 5.5VDC @ 3mA (recommend P/N 164101ER, pg 38)
- Connector: 5-pin header (recommend P/N 163686ER, pg 30)

| Part No. | Product No. | Description | Module Size (LxWxT) | 1 | 10 |
|---|---|---|---|---|---|
| 133129ER | BPI-216N | LCD module | 3.1" x 1.4" x 0.7" | $59.95 | $53.99 |

### *40 characters x 4 lines LCD Serial Backpack®*

- High-contrast supertwist display with unique "big character":backlit mode – prints 1" numbers and letters automatically
- Serial input at 1200, 2400, 4800 or 9600bps
- Power requirement: 5VDC @ <10mA (recommend P/N 164101ER, pg 38)
- Module size: 7.5"L x 2.2"W x 0.9"T

| Part No. | Product No. | Description | 1 | 10 |
|---|---|---|---|---|
| 136485ER | BPP-440L | 40 x 4 serial LCD display | $169.95 | $152.95 |

Expanded Selection

## XELTEK 40-Pin Low-Cost Universal Programmer

- Supports 2500+ devices, including most E(E)PROM, Series E(E)PROM & FLASH
- Programs GALs, PEELs, PALCE, Microcontrollers, PIC16Cxx/17Cxx, COP87xx, and PSD3XX
- Tests TTL/CMOS Test, Memory Test, Vector Test, Test Pattern Edit, Auto Identify TTL/CMOS Device
- Features a universal ZIF socket that accepts up to 40 pins
- High-speed programming, cost-effective hardware and flexible software
- Load and save file in binary, Intel (extended) Hex, Motorola S or Tektronics (extended) Hex format. Multiple load, format conversion, relocation etc.
- HEX-ASCII Edit, Fuse Map Edit, Checksum, Swap, Vector Table edit
- Supports Windows® 95/98/ME • Printer Port Interface
- Size: 7.8"L x 5.5"W x 0.8"H • Weight: 4.0 lbs.

**Includes:** Power adapter, parallel cable, user's guide and CD-ROM software

| Part No. | Description | Price |
|---|---|---|
| 231183ER | SuperPro-Z universal programmer — NEW | $244.95 |

## Universal Programmer – Pocket Size & Battery Powered

### *Parallel Port Interface*

A unique ASIC pin driver was designed specifically for this latest generation programmer, enabling the first true universal input/output capability. Along with basic functions, the software permits setting specially designated functions for any selected device.

- Supports 5200+ devices: 8-bit and 16-bit EPROM, EEPROM, FLASH EPROM, Serial EEPROMS, all Microcontrollers, GAL/PAL/CE without adaptors
- Support for ultra-low voltage devices down to 1.3V
- High speed data transfer: 27C256 read/verify = 2 seconds; program = 8 seconds
- Three separately adjustable voltages for all 40-pins
- Fully compatible with Windows® 95/98/ME/NT/2000/XP
- Integrated editor's many features allow user to edit device data, which can be loaded or saved in INTEL HEX, Motorola S or binary format
- Operates on AC power adapter or 6 NiMH batteries
- Size: 4.5"L x 3.1"W x 1.3"H • Weight: 7.5 oz.

**Includes:** Printer port data cable, power adapter & CD

**System requirements:** PC with Pentium® CPU

| Part No. | Description | Price |
|---|---|---|
| 226309ER | GALEP-4 — NEW | $369.95 |

## Versatile, Production Quality Universal Programmers

### *Parallel Port Interface*

- 3000+ device types supported
- Supports EPROM, flash, microcontroller, Serial (E)EPROM, EPLD, PALCE, GAL, PEEL
- Auto search device select function
- Fast programming speed with IC vendor approved algorithms
- Built-in editor for both buffer date and test vectors
- Supports JEDEC, Intel Hex, Motorola S Records, Binary and ASCII file formats with File LOAD/SAVE command
- Built-in macro commands for programming

207781ER

**Includes:** 01/02/03 personality modules, parallel cable, wall adapter, disk & manual

**System requirements:** IBM PC, XT, AT, 386, 486, Pentium®, hard disk, 512k RAM, standard parallel port, MS-DOS 2.11 or higher

| Part No. | Description | Sockets | Price |
|---|---|---|---|
| 207773ER | MEGAMAX programmer — NEW | 48-pin ZIF | $379.95 |
| 207781ER | MEGAMAX4G prog. — NEW | 48-pin ZIF (1)/32-pin ZIF (3) | 429.95 |

## Fast, Low-Cost Universal Device Programmer

### *Parallel Port Interface*

- 2000+ device types supported
- Menu driven software
- Programs (E)EPROM, PROM, Serial PROM, PALCE, GAL, flash memory, microcontrollers, ATF
- On-board FPGA for speed; 4X faster than offshore brands
- Auto search device select function supports (E)EPROM and microcontrollers
- Auto programming for production programming
- Device insertion test identifies improperly inserted device before programming
- Auto programming for production programming
- Read, blank check, program, verify, checksum, data compare, security, auto function

**Includes:** Parallel cable, wall adapter, diskette & manual

**System Requirements:** IBM PC, XT, AT, 386, 486, Pentium® or compatibles, DOS 2.11 or greater, Windows® 95/98/2000/NT/XP; hard disk, 512k RAM & parallel port

| Part No. | Description | Socket | Price |
|---|---|---|---|
| 207731ER | CHIPMAX — NEW | 40-pin ZIF | $349.95 |

*More products available on our website. Log on today www.Jameco.com!*

## Flash Writer/Programmer with USB Interface

- Programs 8-bit FLASH serial ICs via USB cable on Windows® 9x/2000/XP
- High speed: Only 22 seconds to blank check, program, and verify MXIC MX29F040
- File formats supported: binary and machine code, Intel HEX, Motorola HEX, Tektronix
- Type, read, load, edit, checksum, erase, blank check, program, verify, protect functions
- Supports Flash EPROM, EPROM and EEPROM

**Includes:** USB cable, 12V @ 500mA adapter, CD-ROM software and manual

| Part No. | Description | Price |
|---|---|---|
| 225947ER | Leaper 3D | $199.95 |

*For XELTEK Programmers see our website.*

## 512k E(E)PROM / Flash Programmer USB Interface

- Programs EPROMs 27C/LV (64 – 080); EEPROMs 28C (256-040); Flash EPROMs 29C(256-040) / 29EE/LE (512-020)/28F(256-020A)/ 29F(010-040) & more
- 2 sockets for master/slave operation
- Stand-alone mode uses two 9V batteries
- Adjustable IC parameters, such as programming algorithm, Vpp voltage, & pulse width
- Supports file formats binary & machine code,INTEL HEX, Motorola HEX
- Supports Windows® 95/98/NT/2000/ME/XP
- Size: 6.3"L x 4.3"W x 1.8"H

| FUNCTIONS | | |
|---|---|---|
| **Stand Alone Mode:** | | |
| - Functions | - Verify | - Type |
| - Program | - Blank check | |
| **PC-Based Mode:** | | |
| - Type | - Read | - Program |
| - Blank check | - Verify | - Erase |
| - Disk | - Help | - Process |
| - Parameter | | |

**Includes:** USB cable, 12VDC @ 500mA power adapter; and CD-ROM

| Part No. | Description | Price |
|---|---|---|
| 220636ER | Leaper-3C | $275.95 |

## EPROM Erasers and Accessories

**66042ER:**

- Erases 1 chip in 7 minutes
- Conductive foam liner eliminates static build-up
- UV intensity: 6.5mW/cm²
- Size: 6.8"L x 1.5"W x 2.3"H
- Weight: 0.8 lbs.
- One-year warranty

66042ER

**Requires:** Four AA batteries (not included)

Holiday Gift Idea

**15712ER:**

- Erases 1 chip in 15 minutes or 8 chips in 21 minutes
- UV intensity: 6.8mW/cm²
- Maintains constant exposure distance of 1"
- Conductive foam liner eliminates static build-up
- Built-in safety lock to prevent UV exposure
- Complete with holding tray for 8 chips
- Size: 9.0"L x 3.7"W x 2.6"H • Weight: 2.3 lbs.

15712ER

| Part No. | Description | Price |
|---|---|---|
| 66042ER | Portable eraser | $54.95 |
| 15712ER | 8-chip eraser | 119.95 |
| 34382ER | Lamp for P/N 15712 | 39.95 |
| 13864ER | Foam (12"x24"x0.25") | 9.29 |

## IC Pin Straightener

Straighten bent pins safely and easily with Jameco's IC pin straightener.

- Straightens 8/14/16/ 18/20/24/28/40/42-pin ICs • Materials: black plastic
- Size: 3.3"L x 1.5"W x 0.4"H **Includes:** Ground terminal

| Part No. | Description | Size (LxWxH) | Price |
|---|---|---|---|
| 99362ER | IC straightener — NEW | 3.3" x 1.5" x 0.4" | $6.95 |

COLOR CODE LEGEND... NEW SALE REFURBISHED CLOSEOUT

## Solderless Breadboards

20757ER

20773ER

20790ER

20811ER

20600ER

20669ER 20722ER

These long-lasting solderless breadboards feature screen-printed color coordinates suitable for many types of digital and analog prototyping and circuit design. Larger models feature a heavy-duty aluminum backing with binding posts. Use Jameco's AC/DC breadboard power supply, P/N 77681ER (bottom right).

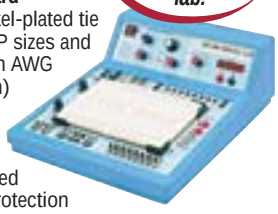
- Accepts most electronic components, including integrated circuits and transistors for digital and/or analog circuitry • 0.1" hole spacing
- Pins are identified by numbered rows and columns
- Use to breadboard and debug circuit designs
- Ideal for high frequency and low noise circuits • Low static, plastic body – CMOS safe
- Nickel-plated clips designed to withstand up to 5,000 insertion cycles
- Breadboard strips connect together to form larger working areas • One-year warranty
- Components are easily interconnected using 20-28 AWG wire (P/N 19289ER & 20079ER, right)
- Some models feature heavy-duty aluminum backings (JE24, JE27) * WBU5 and JE series do not interconnect

*Attention Educators! Buy jumper wire (right) in bulk and SAVE!* (see Hook-up Wire on pg 29)

| Part Number | Product Number* | Terminal Strips | Bus Strips | Contact Points | Binding Posts | Breadboard Size L x W (In.) | Baseplate Size L x W (In.) | Weight (lbs.) | Pricing 1 | Pricing 10 |
|---|---|---|---|---|---|---|---|---|---|---|
| 20600ER | JE21 | 1 | 2 | 400 | 0 | 3.3 x 2.1 | — | 0.13 | $5.25 | $4.73 |
| 20669ER | JE22 | 1 | 0 | 630 | 0 | 6.5 x 1.4 | — | 0.20 | 5.49 | 4.95 |
| 20722ER | JE23 | 1 | 2 | 830 | 0 | 6.5 x 4.0 | 6.5 x 2.1 | 0.30 | 9.39 | 8.45 |
| 194298ER | JE37 | 1 | 2 | 840 | 0 | 6.9 x 2.4 | — | 0.25 | 9.95 | 8.95 |
| 194255ER | JE38 | 1 | 2 | 970 | 4 | 2.9 x 5.6 | 4.9 x 6.3 | 0.50 | 16.95 | 15.25 |
| 194271ER | JE34 | 2 | 3 | 1,560 | 3 | 6.5 x 4.0 | 8.5 x 4.7 | 0.78 | 15.95 | 14.39 |
| 20757ER | JE24 | 2 | 1 | 1,360 | 2 | 6.5 x 3.1 | 8.5 x 4.0 | 0.60 | 13.65 | 12.28 |
| 136901ER | WBU504* | 2 | 3 | 1,855 | 4 | 5.5 x 5.5 | 7.4 x 6.3 | 0.90 | 22.99 | 20.99 |
| 20773ER | JE25 | 2 | 4 | 1,660 | 3 | 6.5 x 4.3 | 8.5 x 5.1 | 0.80 | 19.95 | 17.95 |
| 20790ER | JE26 | 3 | 5 | 2,390 | 4 | 6.9 x 5.8 | 9.1 x 6.9 | 1.10 | 27.29 | 24.56 |
| 20811ER | JE27 | 4 | 7 | 3,220 | 4 | 7.3 x 7.5 | 9.5 x 8.3 | 1.40 | 33.59 | 30.23 |

## Digital Design Lab

*Our most popular digital lab!*



- Two 7-Segment Displays (digit height: 0.3")
- One-year warranty

**Solderless Breadboard**
- Interconnected nickel-plated tie points, fitting all DIP sizes and all components with AWG #22-30 (0.3-0.8mm) solid leads
- 1580 tie points

**DC Power Supplies**
- DC supplies equipped with short circuit protection
- Variable DC power: 0 to +15V & 0 to -15V @ 0.5A
- Fixed power supply: ±5VDC @ 1.0A

*International 115/220VAC Switchable*

**Function Generator (5 ranges)**
- Frequency range: 1Hz–10Hz, 10Hz–100Hz, 100Hz–1kHz, 1kHz–10kHz, 10kHz–100kHz
- Sine wave output: 0–8 Vp-p variable
- Triangle wave output: 6Vp-p fixed
- Square wave output: ±5V fixed
- DCV digital multimeter
- Size: 10.6"W x 13.3"D x 5.0"H
- Weight: 8.1 lbs.

**Includes:** Power cord and manual

| Part No. | Description | Price |
|---|---|---|
| 75838ER | Digital lab | $276.95 |

*Over 99% of our products are in stock!*

## Digital-Analog Design Lab

*International 120/220VAC Switchable*

**Solderless Breadboard**
- 2712 interconnected nickel-plated tie points, fitting all DIP sizes and all components with AWG #22-30 (0.3-0.8mm) solid leads

**DC Power Supplies**
- Variable DC output: 0 to +15V & 0 to -15V @ 500mA; Fixed DC output: +5VDC@1A; -5VDC@300mA
- Input power: 120/220VAC @ 50-60Hz (switchable)

**Function Generator**
- Frequency ranges: 1Hz–10Hz, 10Hz–100Hz, 100Hz–1kHz, 1kHz–10kHz, 10kHz–100kHz
- Sine wave output: 0–8 Vpp variable
- Triangle wave output: 0–6 Vpp variable
- Square wave output: 0–8 Vpp variable

**Other features:**
- 2 variable resistors: VR1=1kΩ, VR2=100kΩ
- 8 data switches • 2.5" dia. 8Ω, 25W speaker
- 2 pulse switches (2 sets of outputs: $\bar{A}$, A, $\bar{B}$, B)
- 2 banana sockets, 2 BNC jacks
- One-year warranty
- Two 7-segment LED displays (digit height: 0.3")
- 8 red LEDs with separate input terminals
- Size: 12.8"W x 9.8"D x 3.7"H • Weight: 8.5 lbs.

**Includes:** Power cord and manual

| Part No. | Description | Price |
|---|---|---|
| 136266ER | Digital analog lab | $379.95 |

## Wire Jumper Kit (350 pcs.)

19289ER

- 25 each of lengths 0.1" through 5.0" (14 sizes)
- 350 assorted lengths in 13 colors
- Pre-stripped/preformed 22 AWG solid wire jumpers

**19289ER: 350-piece wire jumper kit**
- Handy, durable, clear plastic case

**20079ER: 350-piece refill only for 19289ER**

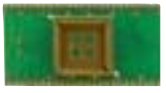
| Part No. | Description | 1 | 10 |
|---|---|---|---|
| 19289ER | Wire jumper kit | $15.95 | $14.39 |
| 20079ER | Refill for 19289ER | 10.99 | 9.89 |

## Reinforced Jumper Wires

- 24 AWG-300 volts
- Reinforced pin ends for durability
- 10 pack assortment: 2 each yellow, white, red, black & blue

| Part Number | Mfr. Cross Ref. No. | Length (mm / inch) | 1 | 10 |
|---|---|---|---|---|
| 126359ER | JW50 | 50 / 1.97 | $3.95 | $3.49 |
| 126341ER | JW100 | 100 / 3.94 | 4.95 | 4.49 |
| 126324ER | JW200 | 200 / 7.87 | 5.19 | 4.69 |

## PLCC Prototype Adapters



- PCB construction
- Silkscreen numbers identify pin numbers in groups of 5 and 10
- Gold-plated round pins
- Tin-plated PLCC connector
- PLCC socket identifies pin 1 and orientation key
- PLCC socket slotted for PLCC chip remover

| Part No. | Pins | Size (L x W) | 1 | 10 |
|---|---|---|---|---|
| 73550ER | 68 | 3.4" x 1.6" | $15.95 | $14.49 |

## AC/DC Power Supply

**Output Specifications:**
**+5VDC @ 1A; -5V @ 300mA fixed;**
**0 to +15VDC @ 500mA variable,**
**0 to - 15VDC @ 300mA variable;**
**12-6-0-6-12 tapped VAC, 300mA fixed**

*International 120/220VAC Switchable*
- Input power: 120/220VAC @ 50-60Hz (switchable)
- Indicator lamps and power fuses
- Compact and lightweight • Plug and use
- For both digital and analog circuits • Color: beige
- Compatible with test leads P/N 77841ER, pg 69
- Size: 7.4"W x 5.5"D x 2.6"H • Weight: 5.5 lbs.

| Part No. | Description | Price |
|---|---|---|
| 77681ER | Power supply | $119.95 |

## Powered Project Board

- Solderless breadboard with 2420 tie points
- DC power supplies: +5V @ 1A; variable power 0 to +15VDC and 0 to -15VDC @ 500mA
- Back panel has ground terminal
- Outputs are short-circuit protected
- Edge plate for non-DIP size components
- Input power: 120/220VAC @ 50-60Hz (switchable)
- Replacement fuse: P/N 103907ER, pg 49
- Breadboard size: 7.4"L x 6.8"W
- Enclosure size: 9.8"L x 8.0"W x 2.6"H • Wt.: 6.8 lbs.

CE

*International 120/220VAC Switchable*

**Includes:** Power cord

| Part No. | Description | Price |
|---|---|---|
| 136258ER | Powered breadboard | $99.95 |

## microEngineering Labs "PICProto" Prototyping Boards

- High quality blank prototyping boards for PICmicro microcontrollers
- Holds microcontroller, 5V regulator, oscillator, capacitors and DB9-25 connector
- Double-sided board with plated-through holes

132644ER 176891ER 132636ER 132652ER

**Includes:** Documentation sheet with schematic, suggested parts and placement

**PICProto 18, 18L:** For all 18-pin PICs including PIC16C52, 54, 56, 58, 554, 558, 61, 620, 621, 622, 71, 710, 711, 712, 715, 716, 84, 16CE623, 624, 625, 16F627, 628, 83, and 84

| Part No. | Description | Size (L" x W") | Price |
|---|---|---|---|
| 132644ER | PICProto 18 | 3.0 x 1.5 | $9.95 |
| 176891ER | PICProto 18L | 3.6 x 4.1 | 19.95 |

**PICProto 3:** For the 28-pin PIC16C62, 63, 642, 66, 72, 76, 773, 16F73, 76, 870, 872, 873, 876, 18C242, and 252

| | | | |
|---|---|---|---|
| 132636ER | PICProto 3 | 3.0 x 3.0 | $14.95 |

**PICProto 64:** For the 40-pin PIC16C64, 65, 662, 67, 74, 77, 774, 16F74, 77, 871, 874, 18C422, and 452

| | | | |
|---|---|---|---|
| 132652ER | PICProto 64 | 4.0 x 3.0 | $16.95 |

## microEngineering Labs EPIC Plus PICmicro Programmer

The EPIC Plus Programmer quickly and easily programs the PIC12Cxxx, 12CExxx, 16C505, 16C55x, 6xx, 7xx, 84, 9xx, 16CE62x, 16F62X, 7x, 8x, 87x, 14C000, 17C7xx, 18Cxxx microcontrollers from Microchip. The basic programmer includes an 18-pin socket for programming 8, 14 and 18-pin PICmicro MCUs.

- Interactive software for Windows and DOS
- Command line operation for automated, non-interactive programming

**Requires:** Two 9V batteries or AC adapter (below) **Includes:** Assembler software

| Part No. | Description | Price |
|---|---|---|
| 132679ER | EPIC Plus PICmicro programmer | $59.95 |
| 136397ER | 8/18/20-pin ZIF adapter | 34.95 |
| 132610ER | 40/28-pin ZIF adapter | 34.95 |
| 162317ER | AC wall adapter (16VDC/500mA, details on pg 39) | 7.95 |
| 67256ER | 6' DB25 cable (details on pg 74) | 6.45 |

## microEngineering Labs PICBasic and PICBasic Pro Compiler

Converts your BASIC programs into files that can be programmed directly into a PICmicro MCU.

132661ER

- Compatible with most PICmicro MCU programmers including EPIC plus
- I2C instructions to access external serial EEPROMs
- Use in DOS or Windows (includes Windows editor/DE software)

**132661ER: PICBasic Compiler**

- Expanded BASIC Stamp I compatible instruction set
- Supports PC12C67x, PIC14Cxxx, PIC16C55x, 66x, 7xx,84, 92x, and PIC16CF8xx microcontrollers • May use up to 2k of code space

**150543ER: PICBasic Pro Compiler**

- Direct and library routine access to any pin or register
- Automation page boundary handling past 2k • Bit, byte, word arrays
- Real If…Then…Else…Endif • Hierarchical expression handling
- Built-in LCD support • MPLAB/MPASM/ICE compatibility
- Supports 12C5xx, 12C67x, 12CE67x, 14C000, 16C5x, 16C55x, 6xx, 7xx, 84, 92x, 16CE62x, 16F62x, 7x, 8x, 87x, 17Cxxx, and 18Cxxx microcontrollers

| Part No. | Description | Price |
|---|---|---|
| 132661ER | PICBasic compiler | $99.95 |
| 150543ER | PICBasic Pro compiler | 249.95 |

## microEngineering Labs LAB-X1 Experimenter's Module Board

A pre-assembled experimenter's platform, providing an assembled testbed containing the circuitry commonly used with PICmicro microcontrollers. Projects may be created using the LAB-X1, including calculator, voltmeter, LCD backpack, tone dialer, and RC servo controller.

- 40-pin ZIF socket for PICmicro MCU (not included, PIC16F877-20/P recommended) • Jumper selectable oscillator from 4MHz to 20MHz
- Reset button • 16 switch keypad • 3 potentiometers • LED bargraph
- 2 lines x 20 characters LCD module • Speaker • 2 RC servo connectors
- RS232 interface • Socket for RS485 interface (device not included)
- Socket for real time clock/serial analog to digital converter (devices not included)
- EPIC in-circuit programming connector • Prototyping area for additional circuit
- Wiring for microchip in-circuit debug connector

**Requires:** AC adapter (below)

| Part No. | Description | Price |
|---|---|---|
| 169113ER | LAB-X1 Experimenter Board | $199.95 |
| 176882ER | PIC16F877-20/P microcontroller | 9.49 |
| 127976ER | AC adapter (details on web) | 4.75 |

# Circuit Boards and Accessories

## DATAK Photo Etch™ Printed Circuit Kit

Generate your own 1:1 artwork. Then use the patented Fast Neg film process to make a photo negative and sensitize and expose a blank copper board. Finish by developing & etching. No camera or darkroom is required.

| Part No. | Product No. | Wt. (lbs.) | 1 | 10 |
|---|---|---|---|---|
| 16731ER | 12-750* | 4.6 | $39.95 | $36.95 |

## DATAK Direct Etch PCB "Starter" Set

**Includes:** 4 blank circuit boards, dry concentrated ferric chloride etchant, instructions, 8 sheets of direct etch donuts, DIP, patterns, lines and 1/32" & 1/16" etch resist tape.

| Part No. | Product No. | Wt. (lbs.) | 1 | 10 |
|---|---|---|---|---|
| 70412ER | ER1 | 0.7 | $11.95 | $10.95 |

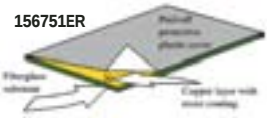
## DATAK Dry Concentrated Etchant

- Makes one pint of etch solution

| Part No. | Prod. No. | Description | 1 | 10 |
|---|---|---|---|---|
| 70201ER | ER3 | Dry etchant | $3.95 | $3.49 |

## DATAK Pre-Sensitized Circuit Boards & Developer

- Pre-coated circuit board
- Size: 3.0"L x 4.0"W x 1/16"T



156751ER

**Includes:** Instructions

| Part No. | Description | 1 | 10 |
|---|---|---|---|
| 156751ER | Single sided | $4.95 | $4.49 |
| 156742ER | Double sided | 6.49 | 5.85 |
| 156734ER | 4 oz. Pos. developer* | 6.95 | 5.95 |

*Hazardous material. UPS ground to continental U.S. only

## Acid Brush

- Used for application of reactive solvents

| Part No. | Description | 1 | 10 |
|---|---|---|---|
| 153322ER | Metal handle, 6" .... *Was $0.65* | $.65 | $.59 |

**More @ www.Jameco.com**

**Miscellaneous Chemical Products on our website.**

## Copper-Plated Blank Circuit Boards

Ideal for hobbyists and students doing prototypes of circuits. Copper plating on board for either single-sided or double-sided boards.

- 1.6mm thickness

Fig. 1 Fig. 2 Fig. 3

| Part No. | Mfr. Cross Ref. No. | Description | Size (L" x W") | Fig. | Wt. (lbs.) | 1 | 10 |
|---|---|---|---|---|---|---|---|
| 169279ER | PCBS3X6 | Single side | 3.0 x 6.0 | 3 | 0.1 | $3.49 | $3.15 |
| 169287ER | PCBS6X6 | Single side | 6.0 x 6.0 | 2 | 0.2 | 4.95 | 4.49 |
| 169295ER | PCBS12X12 | Single side | 12.0 x 12.0 | 1 | 0.5 | 13.49 | 12.14 |
| 169308ER | PCBD3X6 | Double side | 3.0 x 6.0 | 3 | 0.1 | 5.25 | 4.73 |
| 169316ER | PCBD6X6 | Double side | 6.0 x 6.0 | 2 | 0.2 | 7.95 | 7.15 |
| 169324ER | PCBD12X12 | Double side | 12.0 x 12.0 | 1 | 0.7 | 17.95 | 15.95 |

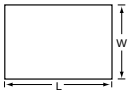
Expanded Selection

COLOR CODE LEGEND... NEW SALE REFURBISHED CLOSEOUT

## General Purpose Prototyping Boards

Select the prototype board that fits your needs from our comprehensive product listing. Prototyping boards with punched holes are convenient, economical tools for assembling circuit components and trying cost-effective alternatives to custom designs.

- 0.062" board thickness
- 0.08" pad size
- PCB material epoxy glass
- 0.1" hole spacing
- Plated through pads are double-sided
- Connector I/O or edge: None

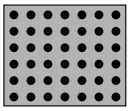


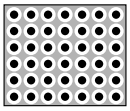
Board Outline

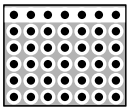
21434ER

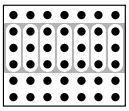
21477ER

Circuit Patterns


A Holes Only


B Pad Per Hole


C Power/Ground Perimeter Bus with Pad Per Hole


D 3 Hole Solder Pad and Bus

**See pg 55 for PCB mounting enclosures and hardware (recommend P/N 106551ER)**

| Part Number | Product Number | Size (W" x L") | Fits Enclosure(s) (see page 41) | Circuit Pattern | Hole Pads | # Holes x Dia. † | Power/Ground Busses | # Mounting Holes x Dia. | Weight (lbs.) | Pricing 1 | Pricing 10 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **105099ER** | 2855PCB | 1.60 x 2.70 | 18921ER | B | Single-sided | 288 x .035" | None | 2 x .115" | .02 | **$5.25** | **$4.73** |
| **105101ER** | 5002PCB | 1.50 x 3.50 | 11957ER | C | Single-sided | 365 x .038" | 4 | 2 x .140" | .02 | **6.95** | **6.25** |
| **28177ER** | PCB1 | 2.42 x 4.10 | 18913ER | C | Plated through | 674 x .040" | None | 4 x .120" | .04 | **5.95** | **5.35** |
| **105136ER** | 2320PCB | 3.30 x 4.50 | 11885ER | C | Single-sided | 1266 x .035" | 4 | 4 x .140" | .06 | **9.95** | **8.95** |
| **105161ER** | 2852PCB | 3.60 x 7.00 | 18905ER, 11973ER | B | Single-sided | 2225 x .035" | 4 | 4 x .140" | .10 | **14.95** | **13.45** |
| **206586ER** | 2746APCB NEW | 4.30 x 6.80 | 209349ER | C | Single-sided | 2550 x .042" | 5 | 4 x .140" | .07 | **10.95** | **9.86** |
| **21434ER** | JE401(8001) | 4.50 x 6.50 | 18868ER | B/D | Single-sided | 2360 x .042" | 2 | None | .12 | **21.95** | **19.76** |
| **21451ER** | JE405(8003) | 4.50 x 6.50 | 18868ER | C | Single-sided | 2360 x .042" | 1 | None | .12 | **19.95** | **17.95** |
| **21477ER** | JE407(8006) | 5.00 x 13.25 | N/A | B | Plated through | 6063 x .038" | None | 8 x .120" | .28 | **41.19** | **37.07** |
| **206594ER** | 2747APCB NEW | 5.50 x 8.00 | 209357ER | C | Single-sided | 3906 x .042" | 5 | 4 x .140" | 1.0 | **14.99** | **13.49** |
| **105187ER** | 2507PCB | 6.10 x 8.80 | 18876ER | C | Single-sided | 4771 x .035" | 7 | 8 x .140" | .21 | **29.95** | **26.95** |
| **37621ER** | 169P84WE | 8.50 x 17.0 | N/A | A | Drilled only | 14448 x .042" | None | None | .53 | **23.95** | **22.75** |

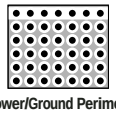
† All 0.042" diameter hole boards use terminals T44, T49, and T421 (see website)

## ISA Printed Circuit Prototyping Boards

Printed circuit prototyping boards for virtually any application – including those requiring high component densities and solder or wire wrap connections. All boards are manufactured to precise standards and specifications. All bus and circuit patterns are solder-coated for user convenience.

- Edge contacts: gold

Circuit Pattern


Power/Ground Perimeter Bus with Pad Per Hole

21531ER

28206ER

| Part Number | Product Number | Description | Size (Inches) W x L | Terminals (below) T44 | T49 | T421 | I/O Connector (not included) | Hole Pads | # Holes x Dia. | Power/ Ground Bus | # Mounting Holes x Dia. | Weight (lbs.) | Pricing 1 | Pricing 10 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **21531ER** | JE417 | PC/XT 8-bit | 4.2 x 6.50 | yes | yes | yes | D-sub 9, 15, 25 & 37 | Plated through | 2126 x .042" | 2 | 8 x .120" | .12 | **$19.95** | **$16.99** |
| **28206ER** | PCB4 | PC/XT/AT 16-bit | 4.25 x 13.13 | yes | yes | yes | D-sub 9, 15 & 25 | Plated through | 4890 x .042" | 2 | 4 x .120" | .23 | **24.95** | **23.69** |

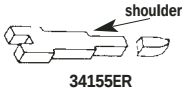
VECTOR ELECTRONIC COMPANY

## Wire Wrap and Push-In Terminals

***For .042" Diameter Holes***

- Material: copper alloy
- Prebagged 100 pcs.

34147ER



34155ER

34163ER

| Part Number | Mfr. Cross Ref. No. | | Description | Overall Length (in.) | Post Size (in.) | Shoulder | Height Above .062" Board | Length Below .062" Board | 100 pc. units 1 | 100 pc. units 10 |
|---|---|---|---|---|---|---|---|---|---|---|
| **34147ER** | T421 | NEW | Push-In micro-klip terminals | .36" | .032" x .045" | — | .200 | .097 | **$7.29** | **$6.95** |
| **34155ER** | T44 | NEW | Miniwrap wiring terminals (two prong with square tail) | .69" | .025" sq. | .045" | .065 | .530 | **7.99** | **7.49** |
| **34163ER** | T49 | NEW | Klipwrap wiring terminals (three prong with square tail) | .83" | .025" sq. | .045" | .200 | .530 | **11.79** | **11.19** |

# Hardware

## Aluminum & Brass Threaded Standoffs

† Finish: Iridite (clear)[1] per MIL-C-5541-D

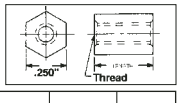
✳ **Prepackaged: order in increments of 10**

Hex .250" Male/Female

Hex.187"/.250" Female

### .250" Hex Female

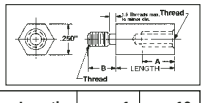
***4-40 Thread .250" Hex***




| Part No. | Metal† | Hex Length | 1 | 10 |
|---|---|---|---|---|
| **139192ER** | Alum[1] | .250" | ✳ | **$.16** |
| **77500ER** | Alum[1] | .375" | ✳ | **.20** |
| **134762ER** | Alum[1] | .437" | ✳ | **.21** |
| **108370ER** | Alum[1] | .500" | ✳ | **.25** |
| **77518ER** | Alum[1] | .625" | **.42** | **.35** |
| **133604ER** | Alum[1] | .750" | **.39** | **.35** |

### .250" Hex Male/Female

***4-40 Thread***
***(Thread A: .250"; B: .187")***



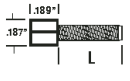

| Part No. | Metal† | Hex Length | 1 | 10 |
|---|---|---|---|---|
| **77585ER** | Alum[1] | .250" | **$.41** | **$.37** |
| **111755ER** | Alum[1] | .500" | **.49** | **.44** |
| **139221ER** | Alum[1] | .750" | **.43** | **.39** |
| **139230ER** | Alum[1] NEW | 1.00" | **.49** | **.44** |
| **128565ER** | Alum[1] | 1.25" | **.59** | **.53** |

*More @ www.Jameco.com*

### .187 Hex Male/Female

***4-40 x .187" Jack Screws and Hex Nut***

| Part No. | Description (Brass) | 1 | 10 |
|---|---|---|---|
| **169931ER** | .275"L jack screws | ✳ | **$.15** |
| **172603ER** | .315"L jack screws | ✳ | **.14** |
| **102816ER** | .435"L jack screws | **.49** | **.46** |
| **108986ER** | .515"L jack screws | **.55** | **.50** |



169931ER/172603ER/102816ER

108986ER

## SAE Hardware

- Zinc-plated steel

**Prepackaged: order in increments of 100 or 1000**

***Slotted Pan Head Machine Screws***

| Part Number | Screw Size | Thread | Length (in.) | 100 piece minimum 100 | 100 piece minimum 1000 |
|---|---|---|---|---|---|
| **38172ER** | 2-56 | Std | .250 | **$.025** | **$.022** |
| **40951ER** | 4-40 | Std | .250 | **.019** | **.011** |

***Hex Nuts***

| | | | | | |
|---|---|---|---|---|---|
| **38164ER** | 2-56 | Std | .183 | **$.022** | **$.014** |
| **40942ER** | 4-40 | Std | .243 | **.025** | **.013** |

***Over 99% of our products are in stock! Place your order by 6PM EST for same business day shipment.***

***1-800-455-6119 www.Jameco.com***

# Prototype Builder Boards, Enclosures and Hardware

Call for additional OEM pricing.

The prototype builder boards on this page are specifically designed to fit into our ABS speedy boxes, die cast aluminum enclosures, aluminum boxes, metal cabinets and heavy-duty instrument cases shown in each grouping. These pre-cut boards have 2 or 4 mounting holes compatible with the PC board mounting hardware listed at the bottom, right (P/N 106551ER).

**Board description:** laminated glass epoxy 1/16" thick fire retardant per FR-4 specs. Copper-clad and solder mask one side. Drilled holes: .035" diameter on .080" square pad. Pads spaced on .10" x .10" grid.

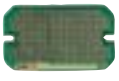
See website for hardware and knobs and more printed circuit board details

## ABS Speedy Enclosures

Will not crack or split when drilled or punched. PCB mounting slots on all four sides. Lid has a lip for precision fit (adds 0.4" height). Complete with four screws and lid. All sizes below are for interior dimensions. • Color: black • ABS plastic

| Part No. | Product No. | Size (L x W x D) | Wt. (lbs.) | 1 | 10 |
|---|---|---|---|---|---|
| **18921ER** | H2855 | 3.1" x 2.0" x 0.9" | 0.1 | **$3.15** | **$2.84** |
| **18913ER** | H2853 | 4.9" x 2.5" x 1.5" | 0.2 | **3.69** | **3.32** |
| **18892ER** | H2851 | 6.0" x 3.5" x 1.9" | 0.4 | **4.79** | **4.31** |
| **18905ER** | H2852 | 7.5" x 4.3" x 2.3" | 0.5 | **6.89** | **6.20** |

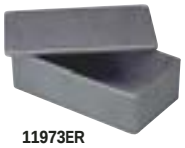
### Printed Circuit Boards for Above Enclosures




• Power/ground, perimeter bus with pad per hole (*except P/N 105099ER) • Plated one side holes

| Part No. | Product No. | Size (L x W) | No. of Holes | 1 | 10 |
|---|---|---|---|---|---|
| **105099ER*** | 2855PCB | 2.7" x 1.6" | 288 | **$5.25** | **$4.73** |
| **105128ER** | 2853PCB | 4.4" x 2.0" | 669 | **7.95** | **6.95** |
| **105152ER** | 2851PCB | 5.5" x 3.1" | 1450 | **9.95** | **8.95** |
| **105161ER** | 2852PCB | 7.0" x 3.6" | 2225 | **14.95** | **13.45** |

## Die-Cast Aluminum Enclosures




High-quality die-cast aluminum cases come with channeled walls for easy PCB mounting. Ideal for RF circuits because the lid forms an effective screen against RFI interference. Made from aluminum, an excellent heat-sink, these cases are great for high temp circuits (up to 600°C). Complete with screws.

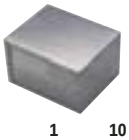
| Part No. | Product No. | Size (L x W x D) | Wt. (lbs.) | 1 | 10 |
|---|---|---|---|---|---|
| **11957ER** | B5002 | 3.9" x 2.0" x 1.0" | 0.2 | **$5.95** | **$5.39** |
| **11965ER** | B5004 | 4.7" x 2.4" x 1.6" | 0.4 | **8.49** | **7.64** |
| **11973ER** | B5006 | 7.5" x 4.3" x 2.4" | 1.2 | **13.95** | **12.56** |

### Printed Circuit Boards for Above Enclosures

• Power/ground, perimeter bus with pad per hole
• Plated one side holes

| Part No. | Product No. | Size (L x W) | No. of Holes | 1 | 10 |
|---|---|---|---|---|---|
| **105101ER** | 5002PCB | 3.5" x 1.5" | 365 | **$6.95** | **$6.25** |
| **105128ER** | 5004PCB | 4.4" x 2.0" | 669 | **7.95** | **6.95** |
| **105161ER** | 5006PCB | 7.0" x 3.6" | 2225 | **14.95** | **13.45** |

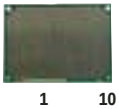
## Aluminum Enclosures




Ideal boxes for those projects that get left lying around! Put them in an economical aluminum enclosure. The enclosure comes in two pieces which slide together.

| Part No. | Product No. | Size (L x W x D) | Wt. (lbs.) | 1 | 10 |
|---|---|---|---|---|---|
| **11869ER** | B2300 | 4.0" x 2.0" x 2.8" | 0.2 | **$5.45** | **$4.69** |
| **11885ER** | B2320 | 5.0" x 4.0" x 3.0" | 0.4 | **7.89** | **6.15** |
| **11893ER** | B2335 | 7.0" x 6.2" x 4.6" | 0.8 | **10.95** | **9.25** |

### Printed Circuit Boards for Above Enclosures




• Power/ground, perimeter bus w/ pad per hole
• Ground bus • Plated one side holes

| Part No. | Product No. | Size (L x W) | No. of Holes | 1 | 10 |
|---|---|---|---|---|---|
| **105110ER** | 2300PCB | 3.4" x 2.4" | 637 | **$7.95** | **$6.95** |
| **105136ER** | 2320PCB | 4.5" x 3.3" | 1266 | **9.95** | **8.95** |
| **105179ER** | 2335PCB | 6.5" x 5.0" | 2829 | **14.95** | **13.49** |

## Metal Enclosures

High-quality metal enclosures are made to suit a large variety of electronics projects and applications. The base is made of aluminum. Slots are located on the sides of the cases for maximum cooling. Cases screw together and come with an attractive two-tone finish.

• Mounting screws and rubber feet included

| Part No. | Product No. | Size (L x W x D) | Wt. (lbs.) | 1 | 10 |
|---|---|---|---|---|---|
| **208901ER** | B2741A | 4.0" x 3.3" x 2.2" | 0.4 | **$6.49** | **$5.89** |
| **208910ER** | B2743A | 5.9" x 5.3" x 3.0" | 0.8 | **7.99** | **7.19** |
| **208928ER** | B2744A | 7.3" x 6.3" x 2.8" | 1.1 | **8.99** | **7.99** |
| **209357ER** | B2747A | 7.5" x 9.8" x 3.2" | 1.4 | **14.99** | **13.49** |

### Printed Circuit Boards for Above Enclosures

• Power/ground, perimeter bus with pad per hole • Plated one side holes

| Part No. | Product No. | Size (L x W) | No. of Holes | 1 | 10 |
|---|---|---|---|---|---|
| **105110ER** | 2741PCB | 3.4" x 2.4" | 637 | **$7.95** | **$6.95** |
| **206578ER** | 2743PCB | 4.7" x 4.5" | 1869 | **7.49** | **6.74** |
| **105179ER** | 2744PCB | 6.5" x 5.0" | 2829 | **14.95** | **13.49** |

## Heavy-Duty Instrument Cases

Both cases split apart for ease of working. Four plastic feet molded on unit. P/N 18876ER includes ventilation and speaker sound slots. • Color: gray

| Part No. | Mfr. Cross Ref. No. | Size (L x W x D) | Wt. (lbs.) | 1 | 10 |
|---|---|---|---|---|---|
| **18868ER** | H2505 | 7.9" x 6.3" x 2.5" | 0.8 | **$7.89** | **$7.10** |
| **18876ER** | H2507 | 10.0" x 7.5" x 3.1" | 1.4 | **8.99** | **7.99** |

### Printed Circuit Boards for Above Instrument Cases

• Power/ground, perimeter bus with pad per hole • Plated one side holes

| Part No. | Product No. | Size (L x W) | Holes | 1 | 10 |
|---|---|---|---|---|---|
| **105179ER** | 2505PCB | 6.5" x 5.0" | 2829 | **$14.95** | **$13.49** |
| **105187ER** | 2507PCB | 8.8" x 6.1" | 4771 | **29.95** | **26.95** |

## ABS Enclosures w/ Clear Tops

Made of gray ABS plastic w/clear polycarbonate top cover. Includes screws for mounting, rubber gasket for a tight seal on your equipment & drilled holes for mounting.

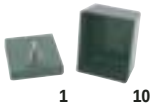
| Part No. | Product No. | Size (L x W x D) | Wt. (lbs.) | 1 | 10 |
|---|---|---|---|---|---|
| **141831ER** | 203C1 | 4.6" x 3.2" x 1.8" | 0.3 | **$8.95** | **$8.09** |
| **141840ER** | 203D1 | 6.3" x 3.2" x 1.8" | 0.4 | **9.95** | **8.99** |
| **141858ER** | 203F1 | 7.0" x 5.5" x 2.5" | 0.8 | **11.95** | **10.79** |

## Mounting Hardware for PC Boards

• 4 spacers, 8 screws and 8 washers

| Part No. | Description | 1 | 10 |
|---|---|---|---|
| **106551ER** | PC board mounting hardware | **$1.79** | **$1.65** |

## Wall Transformer Enclosure



• Enclosure includes 3-prong power plug & cable strain relief
• Material: noryl • Color: black

| Part No. | Style | Size (H x W x D) | 1 | 10 |
|---|---|---|---|---|
| **115051ER** | Non-vented | 3.4" x 2.7 x 2.3 | **$2.25** | **$1.95** |

COLOR CODE LEGEND... NEW SALE REFURBISHED CLOSEOUT

## Fume Extractor and Filters

***Absorbs noxious lead fumes using activated-carbon filter and a high-efficiency fan***

- Air flow: 115 CFM
- Operate continuously providing filtered air
- Compact size allows use on work bench with minimum space
- 22 watt, 120VAC @ 60Hz
- Noise: 49dB fan
- Fuse protected
- Static ground jack
- On/off power switch
- Aerodynamic hood design for effective removal of solder fumes
- Removable carbon impregnated filter
- One-year warranty
- Black anodized aluminum case
- Size: 6.4"W x 4.6"D x 7.9"H • Weight: 4.6 lbs.

120150ER

**Includes:** Detachable power cord

| Part No. | Description | 1 | 10 |
|---|---|---|---|
| 120150ER | Fume extractor | $58.95 | $52.95 |
| 127183ER | Replace. filters (2/pk) | 12.95 | 11.66 |

## Weller® 40-Watt Soldering Station

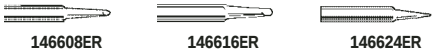
- Lighted on/off switch
- Adjustable power from 5 watts to 40 watts
- 40 watt,120V @ 60Hz
- Temperature is electronically controlled from 350° to 850°F
- Size: 5.5"L x 4.5"W x 3.5"H • Wt.: 1.9 lbs.

**Includes:** ST3 1/8" screwdriver tip, soldering station and manual

| Part No. | Prod. No. | Description | 1 | 10 |
|---|---|---|---|---|
| 146595ER | WLC100 | Soldering station | $48.95 | $44.09 |

## Weller® Soldering Tips

***Replacement Tips for WLC100, WP25 & WP23***



146608ER 146616ER 146624ER

| Part No. | Prod. No. | Description | 1 | 10 |
|---|---|---|---|---|
| 146608ER | ST1 | Screwdrvr tip 1/16" | $5.95 | $5.35 |
| 146616ER | ST3 | Screwdrvr tip 1/8" | 5.95 | 5.35 |
| 192145ER | ST6 | Scrwdrvr tip .031" | 5.25 | 4.75 |
| 146624ER | ST7 | Conical tip 1/32" | 5.95 | 4.95 |

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***More Soldering Equipment on our website.***

## Weller® Analog Soldering Station

- Innovative heater and sensor combination for quick heat-up and rapid temperature recovery
- Tip temperature offset capability which allows user to reset temperature readings to match tip size and style
- Wireless temperature lockout
- Auto power down after 90 minutes of inactivity
- Temperature range: 350˚F to 850˚F (177˚C – 454˚C)
- Temp. accuracy: ±90˚F (±5˚C) • ESD safe
- Size: 5.9"L x 4.5"W x 3.6"H • Weight: 4.0 lbs.

| Part No. | Product No. | 1 | 10 |
|---|---|---|---|
| 217461ER | WES51 | $115.95 | $105.95 |

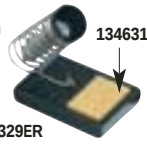
## 16 to 30-Watt Variable Soldering Iron, Stand & Sponge

Holiday Gift Idea

116572ER

**116572ER:**
- Length: 7.5"

**36329ER:**
- Black anodized steel base – 5.3"L x 3.3"W
- See below for replacement sponge (P/N 134631ER)
- Fits most soldering irons .85" diameter



134631ER

36329ER

**Includes:** Sponge

| Part No. | Description | 1 | 10 |
|---|---|---|---|
| 116572ER | Soldering iron | $16.95 | $15.29 |
| 36329ER | Soldering stand | 4.95 | 4.46 |
| 134631ER | Sponge (for 36329ER) | 2.99 | 2.69 |

## Weller® Professional 25-Watt & 35-Watt Soldering Irons

- Interchangeable heater elements
- Lightweight handle with cushioned grip
- Quick change knurled collar
- Length: 9" • 120VAC @ 60Hz

170587ER

192153ER

**Includes:** Power cord & ST3 tip (left)

| Part No. | Prod. No. | Description | 1 | 10 |
|---|---|---|---|---|
| 170587ER | WP25 | 25W solder iron | $32.95 | $31.35 |
| 192102ER | WP35 | 35W solder iron | 39.95 | 35.95 |
| 192153ER | PH25 | Solder iron stand | 16.19 | 15.35 |

## Economical, High-Performance Soldering Irons

High-quality soldering irons that are suitable for both professional and do-it-yourself applications.

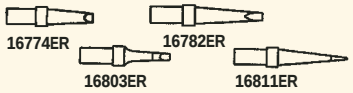
- 40W & 60W • Length: 9"
- 120VAC; 6' cord with 3-prong plug
- 226000ER (chisel, std.); 226018ER (conical, opt.) – tips for 224602ER
- 226026ER (chisel, std.); 226034ER (conical opt.) – tips for 195223ER

| Part No. | Product No. | 1 | 10 |
|---|---|---|---|
| 224602ER | 200PHG-40W | $9.95 | $8.95 |
| 195223ER | 200PHG-60W | 13.95 | 12.49 |
| 226000ER | 44-240517 | .95 | .85 |
| 226018ER | 44-240513 | .95 | .85 |
| 226026ER | 44-240617 | 1.95 | 1.79 |
| 226034ER | 44-240603 | 1.95 | 1.79 |

## Weller® Soldering Tips

***Replacement Tips for WES51***

- Tip leakage: less than 2mV
- Tip to ground resistance: less than 2Ω
- Tips also used with WCC100 station
- Additional tips can be special ordered



16774ER 16782ER 16803ER 16811ER

| Part No. | Prod. No. | Description | 1 | 10 |
|---|---|---|---|---|
| 16774ER | ETA | Screwdriver 1/16" | $6.95 | $6.25 |
| 16782ER | ETJ | Long screwdriver 1/32" | 6.95 | 6.25 |
| 16803ER | ETR | Narrow scrwdrvr 1/16".. | 6.95 | 6.25 |
| 16811ER | ETS | Long conical 1/64" | 6.95 | 6.25 |

## SMD Tweezer Iron

- Maximum efficiency ceramic heating elements insures rapid heat-up and instant heat recovery
- 120VAC
- Max. temp.: 760˚F
- Heater insulation exceeds 100MΩ
- Heater power consumption: 35W x 2

168410ER

168583ER

**Includes:** 0.095" tip

| Part No. | Description | 1 | 10 |
|---|---|---|---|
| 168410ER | Tweezer iron | $59.95 | $53.95 |
| 168583ER | Tip .078" | 11.95 | 10.79 |
| 168591ER | Tip .590" | 12.95 | 11.69 |

## One-Shot Desoldering Gun

This low maintenance desoldering gun with self-contained vacuum pump is perfect for desoldering through-hole components.

- Power consumption: 60W
- Interchangeable standard tips
- Zero static tip, 3 wire grounded
- Sensitive where CMOS protection is needed
- Quick release stainless solder collector
- Electronic temperature control • 120VAC
- Ergonomic, lightweight design • One-year warranty
- Gun casing size: 7.0"L x 4.0"W • Weight: 2.2 lbs.

**Includes:** 1.0mm tip

| Part No. | Description | 1 | 10 |
|---|---|---|---|
| 129066ER | Desolder gun | $99.95 | $89.95 |
| 140214ER | "Y" replacement tip | 10.95 | 9.95 |
| 134594ER | 1.0mm replacement tip | 8.95 | 7.95 |
| 134607ER | 1.2mm replacement tip | 8.95 | 7.95 |

## Electric & Manual Desolder Pumps

19254ER

19166ER

305218ER

- Easily disassembled for cleaning
- Replacement tips available

**19254ER:**
- UL listed
- One-hand operation
- Size: 10.5"L x1.0"Dia.

NEW

**19166ER:** Size: 7.8"L x 0.8"Dia.

**305218ER/305226ER:** Size: 13"L x 1.0"Dia.

| Part No. | Description | 1 | 10 |
|---|---|---|---|
| 19254ER | Electric desolder pump | $26.95 | $23.95 |
| 19166ER | Manual desolder pump | 4.95 | 4.49 |
| 305218ER | Manual desolder pump | 18.95 | 17.99 |
| 305226ER | Man. desolder pump (ESD safe) | 14.75 | 13.99 |
| 19262ER | 1 tip for 19254ER | 4.95 | 4.49 |
| 22091ER | 2 tips for 19166ER | 4.49 | 3.95 |
| 307774ER | 1 tip for 305218ER | 4.55 | 4.35 |
| 307782ER | 1 tip for 305226ER | 2.39 | 2.27 |

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## WAHL® Cordless Soldering Iron

The #1 choice for field service soldering!

**IsoTip® Power Pro Model #7904**

- 900°F tip temperature • LED indicator light
- Iron performance equivalent to 25-watt iron
- Solders 200+ joints or up to 30 minutes of continuous soldering

**Includes:** Soldering iron, recharging stand, NiCAD battery pack, & tips

| Part No. | Description | Weight | 1 | 10 |
|---|---|---|---|---|
| 132783ER | Power Pro cordless iron | 1.1 lbs. | $61.95 | $58.85 |

## Weller® Cordless Soldering Iron Kit

- Self igniting and instant heat
- Auto switch off • Visible gas level
- 2 hours of heat on average tank setting

**Includes:** soldering tool, hot blower tip, hot knife tip, 2.4mm and 4.8mm double flat tip, cleaning sponge, storage case and instruction manual

| Part No. | Prod. No | Description | Temperature | 1 | 5 |
|---|---|---|---|---|---|
| 152207ER | PSI-100K | Tool kit | 25W to 125W (adjustable) | $79.95 | $75.95 |

## Soldering Tip Cleaner with Stand and Rosin Paste Flux

156777ER

73584ER

**156777ER:**

- For cleaning soldering iron tips without the use of water and sponge
- Metal wool for cleaning • Rubberized base for stability

**73584ER:**

- Highly active non-corrosive and non-conductive flux with excellent wetting action

| Part No. | Description | 1 | 10 |
|---|---|---|---|
| 156777ER | Tip cleaner & stand | $4.95 | $4.49 |
| 160004ER | Metal wool replacement | 2.79 | 2.49 |
| 73584ER | Rosin paste flux (2 oz.) | 1.99 | 1.89 |

## 300-Watt Solder Pot

***Temperature Regulated between 420° – 450°C***

- HI/LO switch selectable for temperature
- 2 conductor power cord; 5' 9" long
- Holds up to one 1.1 lbs. solder bar
- Input voltage: 110VAC @ 2.7A; 50-60Hz
- Size: (unit) 4.8"H x 5.5" Dia. (base) • Size: (tub) 2.4"Dia. x 1.6"D

| Part No. | Description | 1 | 10 |
|---|---|---|---|
| 160303ER | 300W solder pot | $64.95 | $58.49 |

## 60-Watt Desoldering Station

- Simple fine tune feature to select within 300–850°F range
- Vacuum pump activated "on demand" using finger tip switch on desolder handle
- CMOS devices protected against voltage spikes
- Size: 9.2"L x 7.2"W x 3.6"H
- Weight: 13.1 lbs.

**Includes:** XYD12 tip and solder holder

| Part No. | Product No. | Description | 1 | 10 |
|---|---|---|---|---|
| 125508ER | 968 | Desoldering station | $299.95 | $269.99 |
| 207271ER | TWZ60ESD | SMD tweezer iron with .078" tip | 69.95 | 62.95 |
| 207221ER | D1A60A | Replacement desoldering iron | 74.95 | 67.49 |
| 168583ER | 46-060102 | Tip .078" for P/N 207271ER | 11.95 | 10.79 |
| 168591ER | 46-060115 | Tip .590" for P/N 207271ER | 12.95 | 11.69 |
| 236460ER | 78-744615 | Replacement sponge for all stations | 2.99 | 2.69 |

**Special! 5% Bundle Savings**

Complete ISO 9000 digital station
**P/N 236101ER & 125508ER**
**Sold separately $409.90**
**Combined: P/N 207263ER $388.95**

## 60-Watt Digital & Analog Display Soldering Stations

Designed for soldering situations where precise temperature is required for sensitive components.

ESD Safe!

236101ER

- Temperature is maintained at ±6°F
- External calibration port
- Electronic temperature control from 392° to 878°F
- CMOS devices protected against voltage spikes
- Power-on and heater-on LED indicators
- Size: 5.1"W x 8.0"D x 4.0"H • Weight: 4.8 lbs.

**Includes:** One 1/16" tip (P/N 35115ER – see web)

168401ER

| Part No. | Product No. | Description | 1 | 10 |
|---|---|---|---|---|
| 236101ER | XY9-60D/ESD | Digital soldering station – ESD safe | $109.95 | $99.95 |
| 168401ER | TWZ50ESD | SMD tweezer iron w/ 0.078" tip | 79.95 | 71.95 |
| 168583ER | 46-060102 | Tip .078" for P/N 168401ER | 11.95 | 10.79 |
| 168591ER | 46-060115 | Tip .590" for P/N 168401ER | 12.95 | 11.69 |
| 236460ER | 78-744615 | Replacement sponge for both stations | 2.99 | 2.69 |

## Rosin Core Solder Rolls and Pocket Packs

For general use in soldering electronic components. Composition varies from 60-40 to 63-37.

141778ER

32117ER

170456ER

73576ER

* Organic core

| Part No. | Mfr. | % Composition Tin | Lead | Silver | Dia. (In.) | Wt. (lbs.) | Pricing 1 | 10 |
|---|---|---|---|---|---|---|---|---|
| 73576ER | Kester (pak) | 60 | 40 | 0 | .031 | 0.04 | $2.59 | $2.35 |
| 32117ER | Kester | 60 | 40 | 0 | .031 | 1.00 | 13.19 | 11.89 |
| 73605ER | Kester (pak) | 62 | 36 | 2 | .020 | 0.10 | 1.75 | 1.49 |
| 112344ER | Kester | 63 | 37 | 0 | .020 | 1.10 | 17.95 | 16.19 |
| 151474ER | Kester* | 63 | 37 | 0 | .031 | 1.00 | 17.69 | 15.95 |
| 170456ER | Golden | 60 | 40 | 0 | .031 | 0.06 | 1.39 | 1.25 |
| 141794ER | Super | 60 | 40 | 0 | .031 | 0.55 | 5.95 | 5.39 |
| 141786ER | Super | 60 | 40 | 0 | .031 | 1.10 | 7.95 | 6.95 |
| 141778ER | Super | 60 | 40 | 0 | .031 | 2.20 | 13.95 | 12.95 |

## Lead-Free Solder Tip Tinner

Prevents oxide buildup and tin depletion on the tip. Increases tip life and heat transfer resulting in a better solder joint! 0.7oz. tin with self adhesive pad.

Safe and Effective!

| Part No. | Description | 1 | 10 |
|---|---|---|---|
| 132986ER | Lead-free tip tinner — NEW | $4.95 | $4.59 |

## Repair broken traces in 3 easy steps!

TECHSPRAY

- Safe on plastics • EPA SNAP approved, no CFCs or HCFCs

### 1. Flux Remover Pen

A unique combination of hydrocarbon solvents and alcohols makes it an excellent defluxer. This can also be used as an all-purpose cleaner for removal of light oils, silicones, waxes, greases, and similar contaminants.

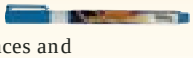
| Part No. | Product No. | 1 | 12 |
|---|---|---|---|
| 263724ER | 11.5 ml pen | $6.19 | $5.61 |

### 2. Conductive Pen

Contains a fast drying, silver filled ink designed to quickly make highly conductive silver traces. Conductive pen repairs traces, makes smooth jumpers, links and shields components.

| Part No. | Description | 1 | 12 |
|---|---|---|---|
| 263716ER | 4.89 ml pen | $12.69 | $12.05 |

### 3. Overcoat Green Pen



Insulate printed circuit board traces and components against high voltage arcing and provide protection from moisture. Protects conductive pen traces and repairs permanent solder mask.

| Part No. | Description | 1 | 12 |
|---|---|---|---|
| 263732ER | 5 ml pen | $9.85 | $9.36 |

COLOR CODE LEGEND... NEW SALE REFURBISHED CLOSEOUT

## Special! Low-Cost Iron

## 30-Watt Soldering Iron and Stand

- UL approved • 110-120VAC
- 1/4" removable tip • Length: 8.3"
- Ideal for precision work

| Part No. | Description | 1 | 10 |
|---|---|---|---|
| 102461ER | 30W soldering iron — NEW | $4.99 | $4.49 |
| 116020ER | Replacement tips (2) — NEW | 2.25 | 1.79 |
| 134631ER | Sponge | 2.99 | 2.69 |
| 36329ER | Soldering stand | 4.95 | 4.46 |

## PANAVISE Electronic Work Center

- Circuit board holder, standard base, tray base mount, solder station, sponges and wire holder included
- Weight: 5.3 lbs. • One-year warranty

| Part No. | Description | Size (WxH) | 1 | 5 |
|---|---|---|---|---|
| 27060ER | Electronic center | 8.5" x 7.8" | $74.95 | $71.25 |

## Third Hand

- Frees hands for soldering
- Two adjustable arms with alligator clip jaws
- 2" diameter magnifying lens
- Quick and easy rotation • Sturdy, heavy base
- Weight: P/N 26690ER: 0.7 lbs.; P/N 72864ER: 1.4 lbs.

| Part No. | Description | Price |
|---|---|---|
| 26690ER | Third hand | $5.95 |
| 72864ER | W/ soldering holder | 7.95 |

## 4-Piece Conductive SMD Tweezer Set

- 4 types of tweezers: fine point, flat head for 4mm SMD chip device, flat head for 8mm SMD chip device, sharp angled tip
- Each is 4.5" long

| Part No. | Description | 1 | 10 |
|---|---|---|---|
| 172638ER | 4-piece conductive SMD tweezer set — NEW | $11.95 | $10.95 |

## PLCC Surface Mount IC Extractors

- Size: 4.0"L x 2.0"W (both)

| Part No. | Product No. | Description | 1 | 10 |
|---|---|---|---|---|
| 16766ER | HT103B | PLCC IC extractor — NEW | $3.95 | $3.55 |
| 16838ER | HT103A | DIP IC extractor — NEW | 1.49 | 1.25 |

## CHIPQUIK SMD Removal Kit

- Quick and easy to use
- Potential damage to printed circuit boards is eliminated
- 2.5' of CHIPQUIK® material removes 1250-1500 SMD pins

| Part No. | Description | 1 | 10 |
|---|---|---|---|
| 141305ER | SMD removal kit — NEW | $21.95 | $19.75 |

## 9-in-1 Multi-Tool

SALE

Multi-function stainless steel tool fits in the palm of your hand or slip into the provided sheath on your belt. Great gift for the handyman or sportsman. Includes: Spring loaded pliers, wire cutter, LED light, knife, bottle opener, metal file, nail pick, and both a Phillips and a flat-head screwdriver.

| Part No. | Description | Weight | Price |
|---|---|---|---|
| 227264ER | 9-in-1 multi tool | 3.0 oz. | ~~$9.95~~ $6.29 |

2.75" Closed

## Standard Adjustable 3X Magnifying Lamp

- 4" Diameter lens
- Maneuverable 30" arm extension
- Lamp tilts or turns in any direction
- Uses 60W incandescent bulb (not included)
- Power requirement: 110VAC/60Hz

| Part No. | Description | Price |
|---|---|---|
| 22710ER | Magnifying lamp | $26.49 |

## 3X Magnifying Lamps

- 45" extension arm
- Supplied with 22-watt Circuline tube
- Extra strong, all-metal mounting base with electrical outlet
- New wire clip design permits easy installation
- Power requirement: 110VAC/60Hz

| Part No. | Description | Price |
|---|---|---|
| 100829ER | Black lamp | $59.95 |
| 149981ER | White lamp | 59.95 |

## 3X Flexible Neck Magnifier

Never squint again at small fine print or have a hard time holding a magnifying glass while holding two other tools with only two hands. Just simply clamp the magnifying lens on to a table or workbench and adjust the flexible gooseneck into position.

- 3.5" diameter and 3x diopter lens
- Arm length: 20"

| Part No. | Description | Price |
|---|---|---|
| 239548ER | Flexible neck magnifier | $12.99 |

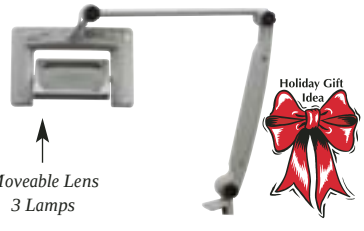
## Precision 5X Magnifying Lamp

With an arm that extends to 40" long, adjustable to any direction or angle, and a 5" diameter, 5X magnifying glass with built-in light, this is the perfect tool to help identify small electronic components and for soldering.

**Includes:** 22W circuline fluorescent bulb

| Part No. | Description | Power Requirement | Weight | Price |
|---|---|---|---|---|
| 197456ER | Magnifying lamp | 110VAC/60Hz | 7.1 lbs. | $109.95 |

## 3-Bulb Adjustable Magnifying Lamp




Need a flexible magnifying solution at a terrific price? Our adjustable rectangular 3-diopter 7.0"x 4.5" diameter lens allows the magnifier independent movement from the light for best viewing angle. On / Off buttons control the top and side lights separately, allowing varying light intensity.

| Part No. | Description | Price |
|---|---|---|
| 217517ER | Adjustable magnifying lamp | $79.95 |

## Super-bright, waterproof and shockproof LED flashlight.

Super bright white LEDs have a life of at least 11 years of continuous use. This heavy-duty flashlight is waterproof and designed for all weather conditions. It's shockproof casing was built to withstand a drop from 4'. LED flash-lights have a low cost per hour of operation because batteries last 14 times longer than in conventional flashlights. The 10-LED flashlight lasts a month of continuous use on three "D" cell batteries. The 7-LED flashlight uses 3 "C" cell batteries and lasts 25-days of continuous use. The 4-LED model lasts 14-days of continuous operation using three "AA" cell batteries.

| Part No. | Description | Price |
|---|---|---|
| 215677ER | 10-LED 10.6" Flashlight | $63.95 |
| 215685ER | 7-LED 8.9" Flashlight | 53.95 |
| 215693ER | 4-LED 7.9" Flashlight | 33.95 |

***We're always looking for suggestions and feedback about the products we are offering in our catalog and on our website. Send your comments to: AtHome@Jameco.com***

## Strip-Wrap-Unwrap Tool

34585ER

- Tool tip made of tempered steel
- Spring steel cutter
- Use with 30 AWG wire on .025" square posts
- No solder necessary, see pg 29 for wire
- Wrap 1 to 2 turns of insulated portion of wire for secure connections • Modified tool • 4.5" long

| Part No. | Mfr. Cross Ref. No. | 1 | 10 |
|---|---|---|---|
| 34585ER | WSU30M | $49.99 | $44.99 |
| 236785ER | HSR30 | 29.95 | 26.95 |

## Nibbling Tool

- Perfect for cutting, trimming, or notching sheet metal up to 18 AWG
- Time-saver when working on prototyping, chassis, and circuit boards
- Minimum .375" hole required • Size: 7.8"L

18809ER

| Part No. | Prod. No. | Description | 1 | 10 |
|---|---|---|---|---|
| 18809ER | HT204 | Nibbling tool | $7.95 | $7.16 |
| 29330ER | HT204B | Replacement bit | 4.49 | 4.04 |

## Impact Punch-Down Tool

- Reversible clip-in blade
- Adjustable (HI-LO) spring-loaded impact mechanism
- Storage bin on handle for spare blade

175071ER

**175071ER:**

**Punch-down tool with blade**

- For 66-type terminals
- Size: 5.2"L x 1.5"W x 1.0"H

175089ER

**175089ER:**

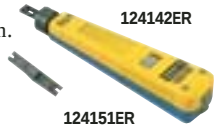
**Punch-down blade**

- Blade for 110-type terminals

| Part No. | Description | 1 | 10 |
|---|---|---|---|
| 175071ER | Tool w/ 66 blade | $34.95 | $31.46 |
| 175089ER | Punch-down blade 110 | 14.95 | 13.49 |

## Impact Punch-Down Tool

Conforms to AT&T performance specification. Reversible clip-in blade, adjustable spring-loaded impact mechanism and spare storage blade in the handle.



124142ER

124151ER

Paladin Tools®

- For 66-type bifurcated terminals
- Size: 7.0"L x 1.4"W x 1.1"H

| Part No. | Description | 1 | 10 |
|---|---|---|---|
| 124142ER | Tool with blade | $49.35 | $45.00 |
| 124151ER | #110 blade | 19.95 | 17.95 |

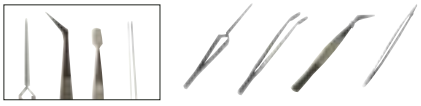
## D-Sub Pin Insertion/ Extraction Tool

- Material: Red/white plastic body • Exchangeable tips

| Part No. | Description | 1 | 10 |
|---|---|---|---|
| 19094ER | Insertion/extraction tool | $2.79 | $2.49 |

*More Tools @ www.Jameco.com.*

## 4-Piece Steel Tweezer Set



- 4 styles of stainless steel tweezers, one self-locking
- Ideal for picking up small components in hard-to-reach places

| Part No. | Description | 1 | 10 |
|---|---|---|---|
| 10735ER | 4-piece tweezer set — NEW | $7.95 | $6.95 |

## Digital Display Calipers

***Metric or Inches***

- Hardened stainless steel
- Display: inches to 1/1000THS mm to 1/100THS
- Resolution: 0.01mm (0.0005")
- Instructions for making internal, external, depth and step measurements
- Calipers measure to 6 inches/150mm
- Weight: 0.8 lbs. • One-year warranty

**Includes:** Fitted case and 1.5V silver oxide battery (replacement battery, P/N 140783ER, see web)

| Part No. | Description | 1 | 10 |
|---|---|---|---|
| 127482ER | Digital disp. calipers — NEW | $64.95 | $58.46 |

## 26-Piece SAE Hobby Tool Set

- 4-1/2" long nose pliers
- 4-1/2" diagonal cutting pliers
- #1 & #2 Phillips bits
- #1 & #2 pozi bits
- 3/16" & 1/4" slotted bits
- Hex to 1/4" driver adapter
- T-10, T-15, and T-20 Torx bits • Tweezers
- Driver handle • Compact carrying case
- 3" extension bar for 1/4" drive
- 3 slotted and 3 screw driver precision set
- 3/16", 1/4", 11/32" and 3/8" sockets for 1/4" drive
- Size: 12.0"L x 9.0"W x 2.0"H • Weight: 1.5 lbs.

| Part No. | Description | 1 | 10 |
|---|---|---|---|
| 170069ER | 26-pc. SAE tool set — NEW | $17.95 | $16.16 |

## 114-Piece Tech Service Tool Kit

- Kit includes:
  - 3-prong holder
  - Anti-static strap
  - Brush
  - Crimping tool
  - Desoldering pump
  - Drill set
  - 5 piece files, needle
  - Flashlight
  - Forceps
  - 6 pc. precision screwdrivers
  - IC extractor– Inspector mirror
  - 9 pc. screwdriver set
  - 10 ft. measuring tape
  - Diagonal cutter pliers
  - Snipe nose pliers
  - Soldering iron
  - Utility components box
  - Adjustable wrench
  - 10 pc. wrench set
  - 6" side cutter
  - 6" slip joint plier
  - 3 piece trimmer set
  - 8" combination plier
  - Stainless steel spring hook
  - Heat sink
  - Bent needle nose pliers
  - Flat nose pliers
  - Tweezers
  - Electrician tape
  - Wire stripper
  - 7 pc. wrench hex key set
  - 40-pc socket pack
  - 6" long nose plier
  - carpenter hammer
  - solder wick
  - 2 removable pallets
- Size: 18.5"L x 13.8"W x 6.7"H • Weight: 22.8 lbs.

| Part No. | Description | 1 | 5 |
|---|---|---|---|
| 149024ER | 114-piece tool kit — NEW | $279.95 | $251.99 |

## Cordless, portable power tools for your weekend projects!

Holiday Gift Idea

Take your shop with you wherever you work! This tough and economical set of cordless rechargeable tools puts home-improvement power in your hands in a hurry. The kit comes with two interchangeable 14.4V batteries and a quick charger so you never run out of power. Everything is contained in one convenient case so you won't forget one of your essential tools.

**Specifications:**

- **Drill/driver**—Variable speed reversing with a 3/8" keyless chuck, a 16 position clutch, metal gears, and bronze bushings.
- **Detail sander**—Triangle shaped for sanding in small and difficult-to-reach places. Counter-balanced drive shaft with ball-bearing support.
- **Jigsaw**—Adjustable base plate, 0.5" stroke, and 1750 SPM operation
- **Flashlight**—Has adjustable head so you can direct the beam where you really need it.

| Part No. | Description | Price |
|---|---|---|
| 235504ER | 14.4 volt tool kit ..... Was ~~$69.95~~ | $54.95 |

## Bend light, Illuminates those impossible-to-reach places!

For close work in confined areas, now you can twist and shape your light to reach where no beam has gone before! No more wrestling and squinting; these precision adaptors turn your Maglite® AA and AAA flashlights into a go-where-you-need-it lighting system. Perfect for kit-builders, maintenance work, any application where light is needed in hard-to-access places. Just choose the length (4.5" to 20") and size that's right for you.

| Part No. | Description | Price |
|---|---|---|
| 239927ER | 7" adapter with AA flashlight | $19.95 |
| 239943ER | 7" adapter for most AA flashlights | 6.95 |
| 239951ER | 4.5" adapter for AAA flashlights | 5.95 |
| 239960ER | 20" adapter for AA flashlights | 9.95 |

*Over 99% of our products are in stock! Place your order by 6PM EST for same business day shipment.*

COLOR CODE LEGEND... NEW SALE REFURBISHED CLOSEOUT

## IC Pin Straightener

Straighten bent pins safely and easily with Jameco's IC pin straightener.

- Straightens 8/14/16/18/20/24/28/40/42-pin ICs
- Materials: black plastic
- Size: 3.3"L x 1.5"W x 0.4"H

**Includes:** Ground terminal

| Part No. | Description | 1 | 10 |
|---|---|---|---|
| 99362ER | IC straightener — NEW | $6.95 | $6.26 |

## 3-In-1 Crimping Tool

***For perma seal connectors only***

- For waterproof type (PERMA SEAL) connectors, see pg 2
- Black oxide frame finish
- Ratchet mechanism
- Size: 9.1"L
- Weight: 1.2 lbs.

NEW

| Part No. | Description | Price |
|---|---|---|
| 291611ER | 3-In-1 Crimping Tool | $49.95 |

## Non-Insulated Terminal D-Sub Crimping Tool

***14-26 AWG***

- Metal crimping tool with cutter and insulated handles
- For computer pins, sockets and D-sub 26-28 AWG wire
- For butt-insulated connectors, 22-26 AWG wire • Coiled spring return
- For telephone spade lugs, 22-26 AWG wire
- For non-insulated connectors, 20-22 AWG wire
- For non-insulated connectors, 14-18 AWG wire

| Part No. | Product No. | 1 | 10 |
|---|---|---|---|
| 99442ER | HT202A | $9.49 | $8.55 |

## D-Sub Crimping Tool

***20-28 AWG***

- Crimps D-sub pins and sockets
- Size: 7.0"L x 4.0"W

| Part No. | Product No. | 1 | 10 |
|---|---|---|---|
| 159265ER | HT213 | $10.95 | $9.89 |

## Hand Crimp Tool

This tool is designed to crimp terminals, strip and cut wires, and cut bolts. Cuts and strips wires from 18-30 AWG. For Molex crimp pin terminals with .062", .093" diameters and KK® series (check our website)

- Length: 8.3"L • Weight: 0.5 lbs.

| Part No. | Product No. | 1 | 5 |
|---|---|---|---|
| 227491ER | W-HT-1921 — NEW | $14.99 | $13.99 |

***Visit us @ www.Jameco.com to find more quality components for less.***

## Metal Modular Connector Crimping Tool

- Cable stripper and wire cutter
- Size: 8.0"L
- Weight: 1.8 lbs.
- Crimps 6P and 8P plugs (6P2C, 6P4C, 6P6C, 8P2C, 8P4C, 8P6C, 8P8C)

| Part No. | Description | 1 | 10 |
|---|---|---|---|
| 114526ER | RJ11/RJ45 — NEW | $24.95 | $22.49 |

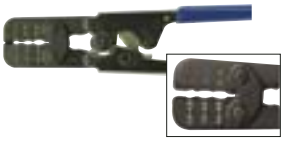
## Ratcheted BNC Crimping Tool

- Crimps RG58, RG59, RG62, RG174 and fiber optic
- All steel construction

| Part No. | Product No. | 1 | 10 |
|---|---|---|---|
| 114534ER | HT-3019 | $23.95 | $21.59 |

## Terminal Wire Crimping Tool

- Crimps solderless terminals: 18-22 AWG red, 14-16 AWG blue and 10-12 AWG yellow
- Size: 9.0"L x 2.0"W



| Part No. | Mfr. Cross Ref. No. | 1 | 10 |
|---|---|---|---|
| 72995ER | HT303 | $18.95 | $17.06 |

## IDC Connector Crimping Tool

- Crimping distance: 27.5mm to 6mm (with attachment)
- Cushioned red handles
- Crimp insulation displacement connectors
- Use for IDC socket connectors, pg 31

| Part No. | Product No. | Size | 1 | 10 |
|---|---|---|---|---|
| 73251ER | HT214 | 9.2"L x 3.0"W | $15.95 | $14.39 |

## Hex Crimp Tools

- Use with RG-58 and RG-59 connectors with up to a 3/8" ferrule

**261745ER:** 1.7mm standard crimp for crimping center conductor on BNC & TNC connectors; up to 3/8" ferrule

**261737ER:** Ferrules up to 1/2"

| Part No. | Description | Price |
|---|---|---|
| 261745ER | Hex crimp tool, 3/8" | $19.75 |
| 261737ER | Hex crimp tool, 1/2" | 19.49 |

## 5" Cutting Pliers

Recommended for cutting copper and soft lead wires. Ideal for precise circuit board work.

| Part No. | Description | 1 | 5 |
|---|---|---|---|
| 261809ER | Cutting pliers | $4.99 | $4.55 |

## 4.3" Diagonal Wire Cutter

- Cuts component wire up to 1.2mm thick
- Stainless steel
- Durable rubber handles
- Jaws are designed for flush cutting
- 4.3"L x 2.1"W with 0.5" cutting blade

| Part No. | Description | 1 | 10 |
|---|---|---|---|
| 35481ER | Wire cutter — NEW | $5.59 | $4.99 |

## Cutting Pliers

***Flush Cut***

- Stainless steel
- Side cutting flush cut
- Leaf spring for smooth controlled action

| Part No. | Description | Price |
|---|---|---|
| 261788ER | Cutting pliers | $6.95 |

## Xcelite® Wire Cutter

- Spring return
- Micro series wire cutter – flush; 6"

| Part No. | Product No. | 1 | 10 |
|---|---|---|---|
| 146712ER | 170M | $5.75 | $5.19 |

## 5-Piece Pliers Set

Holiday Gift Idea

- Precision machined heat-treated jaws
- Vinyl insulated handles

**Includes:** 6.5" needle nose; 7.5" lineman's; 8" slip joint; 8" groove joint & cutting pliers

| Part No. | Description | 1 | 5 |
|---|---|---|---|
| 261905ER | Pliers set | $9.75 | $9.25 |

## 5" Wire Cutter/Stripper

- Insulated handles
- Spring return
- Tempered steel cutting edge
- Adjustment for wire gauges
- For 10-30 AWG wire

| Part No. | Mfr. Cross Ref. No. | Size | 1 | 10 |
|---|---|---|---|---|
| 78991ER | HT108 | 5.0"L x 3.0"W | $3.95 | $3.49 |

## Automatic Wire Stripper

- Strips 8-22 AWG wires
- Spring load grip
- Size: 7.0"L x 2.5"W
- Weight: 0.8 lbs.

**Includes:** Wire stripper for desired strip length

| Part No. | Description | 1 | 10 |
|---|---|---|---|
| 175097ER | Auto wire stripper | $16.95 | $15.26 |

## 6" Premium T6 Wire Stripper

- Contoured cushion-grip handles
- Wire size markings, in AWG and mm
- 16-26 AWG stranded
- Size: 6.0"L x 2.0"W

| Part No. | Product No. | Description | 1 | 10 |
|---|---|---|---|---|
| 161234ER | ID45-216 | T-6 16-26 AWG | $17.79 | $16.91 |

## Rotary Coax Cable Strippers

***2 and 3 Blade***

**159118ER (3 Blade): 2 settings RG58/59/62**

- For cable sizes 4-10mm
- Size: 4.2"L x 1.3"W • Color: black

**159185ER (2 Blade): 4 settings RG58/59/62/174**

- For cable sizes 4-12mm
- Size: 3.9"L x 0.7"W • Color: gray

159185ER

**Includes:** Hex key wrench for adjusting blade

| Part No. | Product No. | 1 | 10 |
|---|---|---|---|
| 159118ER | HT312B (3 blade) | $13.95 | $12.56 |
| 159185ER | HT332D (2 blade) | 13.95 | 12.56 |

## Aerospace-designed wrench works in half the space of others!

SALE

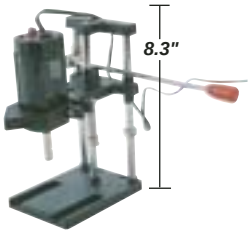
This wrench, developed for the aerospace industry, ratchets in just 30° of space – *half* the space of other open-end wrenches. It is made of solid 17-4 stainless tool steel, so it can't flake or chip like chrome-plated tools. The SAE set fits 3/8"-7/8", 1/2"-9/16", 5/8"-11/16". It's so indestructible, AldenWrench guarantees it for life!

| Part No. | Description | Price |
|---|---|---|
| 223896ER | 3-piece wrench set (SAE) | ~~$34.95~~ $29.95 |

*With a ratcheting angle of just 30°, this wrench works where others don't. Why didn't someone think of it sooner?*

## Mini-Drill and Stand

This Mini Drill is excellent for drilling through circuit boards and protoboards. The drill comes with an array of drilling, grinding and sanding attachments. Drill stand is designed to function like a drill press.




*Shown w/ drill (26702ER) & stand (26711ER)*

| Part No. | Description | Wt. (lbs.) | 1 | 10 |
|---|---|---|---|---|
| 26702ER | MS398 drill | 0.8 | $29.95 | $26.95 |
| 26711ER | MS399 stand | 1.8 | 19.95 | 17.95 |

## 7-Piece Insulated Screwdriver Set

- Tapered handle for sure grip
- Precision ground shank
- Hardened, magnetic tips

**Includes:** 0.4/0.8/1.0/1.2mm slotted; #0/1/2 Phillips

| Part No. | Description | 1 | 5 |
|---|---|---|---|
| 261999ER | Screwdriver set | $19.25 | $17.59 |

## 25-Piece Assorted Screwdriver Grab Bag

STANLEY

25 assorted sizes and types of screwdrivers in a box. Types may include slotted, Phillips, Torx or star.

| Part No. | Description | 1 | 10 |
|---|---|---|---|
| 235070ER | Assorted screwdrivers | $15.99 | $14.99 |

## 25-Piece Hex Key Set

- 12-piece SAE long arm with sizes from 1/16" to 3/8"
- 13-piece metric short arm with sizes from 1.5mm to 1cm

**Includes:** vinyl pouch

| Part No. | Description | 1 | 5 |
|---|---|---|---|
| 261825ER | Hex key set | $6.95 | $6.59 |

## 7-Piece Nut Driver Sets

Holiday Gift Idea

- Premium hardened steel sockets
- Large colored handles

**261850ER: Metric** 5mm, 6mm, 7mm, 8mm, 9mm, 10mm & 11mm

**261841ER: SAE** 3/16", 1/4", 5/16", 11/32", 3/8", 7/16", 1/2"

| Part No. | Description | 1 | 5 |
|---|---|---|---|
| 261850ER | Metric nut driver set | $8.99 | $8.65 |
| 261841ER | SAE nut driver set | 9.89 | 9.49 |

## Security bits to bypass those bizarre screwheads.

This security bit set contains most of the bits commonly used in today's electronic products to make them tamper resistant. Now you can open the cases of these products to repair them without damaging the case or screw.

**Includes:** Torx bits: #6, #8 and #10; Tri-wing bits: #1, #2, #3 and #4; Security hex bits: 5/64", 3/32", 7/64", 1/8", 9/64", 5/32" 3/16" and 1/4"; Security Torx bits: T8, T10, T15, T20, T25, T27, T30, T35 and T40; Spanner bits: 4, 6, 8 and 10mm; Phillips bits: #1, #2, #3 and #4; and 60mm magnetic bit extension that fits 1/4" hex driver

| Part No. | Description | 1 | 10 |
|---|---|---|---|
| 223829ER | 32-piece tool kit | $11.95 | $10.75 |

## High Speed Steel Step Drills

Drill multiple holes in thin material with the same bit, faster and easier. You can drill holes in most materials such as plastic, metal, and wood up to 1/8" thick. No center punching on most sizes. Made of high-speed steel.

| Part No. | Description | Size | 1 | 10 |
|---|---|---|---|---|
| 229657ER | Step drill | 3/16" to 7/8" 13-step | $14.95 | $13.45 |
| 172401ER | Step drill | 3/16" to 1/2" 6-step | 9.95 | 8.95 |

## Heavy-Duty Tool/ Equipment Case

Made of lightweight aluminum, this tool case is designed to take rough field use. Case includes tool pallet, egg carton foam lid, and 2.5" thick pre-cut foam bottom. Ideal for carrying fragile instruments, test equipment, and small hand tools.

- Size: 19"L x 14"W x 6"D

| Part No. | Description | Price |
|---|---|---|
| 261876ER | Tool/equipment case | $51.39 |

## 9-Piece Assorted Drill Bit Kit

- Variety of sizes: .014" to .126"
- Each kit will vary in contents of bit sizes
- Shank diameter: .125"

**Includes:** Plastic case

| Part No. | Description | 1 | 10 |
|---|---|---|---|
| 131676ER | 9-piece drill bit kit | $9.95 | $8.95 |

## PC Board Drill Bits

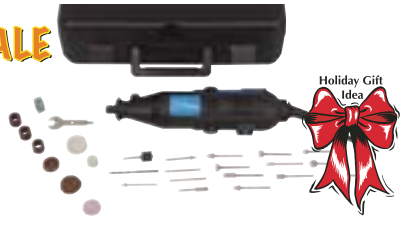
- Reconditioned carbon steel bits
- High quality long lasting cutting edge
- Shank diameter: .125"
- Use for drilling holes in glass PC boards

| Part No. | Drill Dia. | No. | Application | 1 | 10 |
|---|---|---|---|---|---|
| 16619ER | .021" | 75 | Miscellaneous | $1.55 | $1.32 |
| 16580ER | .040" | 59 | Plated thru holes | 1.75 | 1.49 |

## Variable High-Speed Rotary Tool Kit

SALE

Holiday Gift Idea



A multiple high-speed rotary tool kit with 6-speed selections ranging from 8,000 to 30,000 RPM, along with 40 bits and accessories, provides you all the power and precision you need to tackle almost any cutting, drilling, polishing, sanding or engraving job. With its high-speed output, plus a nylon body, you can grasp the tool lightly to perform fast rough work or delicate craftsmanship. A convenient shaft-lock button provides fast-and-easy accessory bit changing.

- 9" long variable-speed rotary tool
- Drum sander wheel • 3 drum sander pads
- 2 felt buffing pads • Grinder dressing stone
- Disk sanding arbor • 6 disk sanding pads
- 7 disk grinders • 10 rotary grinders
- 4 rotary files • 2 drill bits • Wrench
- One-year manufacturer's warranty

| Part No. | Description | 1 | 5 |
|---|---|---|---|
| 211289ER | Rotary tool kit | ~~$44.95~~ $42.69 | $40.57 |

## Spring-hook set makes the job faster and easier.

SALE

*Each end has a unique point to fit the right situation and position.*

Grab or place in position springs and wires in those hard-to-reach areas with these 8" long spring-hook tools.

| Part No. | Description | 1 | 5 |
|---|---|---|---|
| 226042ER | Spring-hook set | ~~$5.95~~ $5.49 | $5.22 |

COLOR CODE LEGEND... NEW SALE REFURBISHED CLOSEOUT

## Nylon Cable Ties

### Standard

126543ER

- Cable ties made from UL approved Nylon 66
- Temperature range: -40˚C to +85˚C
- Flammability rating: UL 94V-2
- Color: clear
- ***Sold in increments of 100 or 1000***

| Part No. | Tensile Strength (lbs.) | Dimensions (L" x W") | 100 | 1000 |
|---|---|---|---|---|
| 126543ER | 18 | 4.0 x 0.10 | $.02 | $.014 |
| 182650ER | 18 | 5.5 x 0.13 | .035 | .025 |
| 182668ER | 18 | 8.0 x 0.13 | .075 | .05 |
| 190772ER | 40 | 11.0 x 0.19 | .10 | .065 |

### Weather Resistant



104141ER

- Contain Carbonate A for greater resistance to ultraviolet rays in outdoor use
- Color: black
- ***Sold in increments of 100 or 1000***

UV Resistant

| Part No. | Tensile Strength (lbs.) | Dimensions (L" x W") | 100 | 1000 |
|---|---|---|---|---|
| 104141ER | 18 | 4.0 x 0.10 | $.044 | $.029 |
| 190781ER | 40 | 8.0 x 0.13 | .085 | .065 |
| 190799ER | 40 | 10.0 x 0.14 | .10 | .09 |
| 190801ER | 40 | 13.0 x 0.14 | .113 | .088 |

## Nylon Cable Tie Mount

- Screw tab & cradle mount adhesive
- 1.1" square adhesive 4-way cable tie used with 0.2"W max
- ***Sold in increments of 10 or 100***

| Part No. | Description | 10 | 100 |
|---|---|---|---|
| 71394ER | 4-way cable tie | $.23 | $.19 |

## Heat Gun/Stripper

Holiday Gift Idea

### Dual-Setting

- Use with heat shrink material
- Works with spot-dry paint, plaster, spackle cure adhesives
- Will remove adhesive-applied tiles and linoleum without chipping
- Dual heat setting: 600°F/1100°F • UL listed
- Thaw pipes, frozen locks and loosen rusted bolts

| Part No. | Description | 1 | 10 |
|---|---|---|---|
| 76865ER | Heat gun | $39.95 | $35.95 |
| 217816ER | Heat shrink attachment | 1.95 | 1.85 |

## PVC Heat Shrink Tubing

- 2:1 uniform shrink ratio
- Color: black
- Shrink temp: 125˚C
- Sold in 10' and 100' increments
- UL/CSA approved

182748ER

182772ER

| Part No. | Dia. before (mm) | 10 ft. | 100 ft. |
|---|---|---|---|
| 184721ER | .12" (3) | $1.19 | $10.50 |
| 182730ER | .16" (4) | 1.39 | 12.50 |
| 182748ER | .20" (5) | 1.45 | 13.00 |
| 182756ER | .24" (6) | 1.49 | 13.50 |
| 182764ER | .31" (8) | 1.79 | 16.00 |
| 182772ER | .43" (11) | 2.80 | 19.00 |
| 182781ER | .59" (15) | 3.50 | 30.00 |

## 3M Super 33+ Electrical Tape

This tape provides flexibility and easy handling for all around performance. It combines PVC backing with excellent electrical insulating properties to provide primary electrical insulation for splices up to 600V and protective jacketing. Excellent resistance to UV rays, abrasion, moisture, copper corrosion, alkalis and acids, and is flame-retardant. Excellent all-weather performance in cold to 0°F (-18°C) and designed to perform in a continuous temperature environment up to 220°F (105°C).

- UL listed and CSA certified • Length: 66'

| Part No. | Description | Price |
|---|---|---|
| 285464ER | Electrical tape | $4.35 |

## 3M Tartan 1710 Electrical Tape

3M™ Tartan™ 1710 Vinyl Insulating Tape offers good resistance to abrasion, moisture, alkalis, acid, copper corrosion and varying weather conditions including ultraviolet.

- UL listed • Flame retardant • Length: 60'

| Part No. | Description | Price |
|---|---|---|
| 285587ER | Tartan™ electrical tape | $.95 |

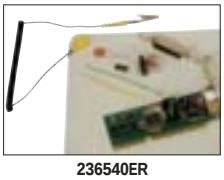
## 3M 5-Color Vinyl Electrical Tape

3M #35 vinyl electrical color coding tape is used in phase identification, color coding leads, piping systems and for marking safety areas. This tape is abrasion and weather-resistant, with excellent mechanical and electrical insulation properties that wraps smoothly and holds tight over a wide range of temperatures. UL Listed, CSA Certified, and flame-retardant. Excellent all-weather performance in cold to 0˚F (-18˚C) or hot to 220˚F (105˚C). 5 rolls to a pack with colors blue, green, red, yellow, and white.

- 1/2" x 20'

| Part No. | Product No. | Price |
|---|---|---|
| 287806ER | 3M 10457 — NEW | $7.95 |

## Anti-Static Work Mats



236540ER

Make your work environment safe from static discharge! These mats are made of attractive semi-conductive vinyl that provide adequate discharging, yet will not short leads or pins.

| Part No. | Dimensions | Wt. (lbs.) | 1 | 10 |
|---|---|---|---|---|
| 10575ER | 11.3" x 22.0" — NEW | 0.7 | $9.95 | $8.96 |
| 10583ER | 19.5" x 23.5" — NEW | 1.1 | 13.95 | 12.59 |
| 236540ER | 23.5" x 27.5" — NEW | 1.4 | 24.95 | 22.49 |

***More @ www.Jameco.com***

## Plastic Fliptop Boxes

100255ER

- Clear plastic box with a clear plastic lid and removable dividers

**100255ER:** Size: 8.4"L x 4.5"W x 1.4"H

- 18 compartments (1.4" x 1.5" each)

**148902ER:** Size: 10.2"L x 4.7"W x 1.6"H

- 12 compartments (1.7" x 2.3" each)

| Part No. | Description | 1 | 10 |
|---|---|---|---|
| 100255ER | 18 compartments | $2.25 | $1.95 |
| 148902ER | 12 compartments | 3.95 | 3.49 |

## Plastic Fliptop Case for SMDs

***Includes labels for each bin***

***128 Compartments for Surface Mount Components***

- 8 rows x 16 columns grid
- Padded cover locks bins closed
- Fliptop openings on each bin
- Size: 11.0"L x 8.3"W x 1.7"T

| Part No. | Description | 1 | 10 |
|---|---|---|---|
| 164267ER | SMD fliptop case | $49.95 | $44.99 |

## Component Cabinet

81701ER

Drawer (85454ER) Divider (85446ER)

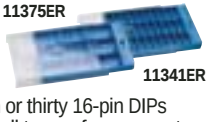
- Drawer can be divided into 4 sections (clear)
- Wall mountable cabinet (ABS black)
- Cabinet size: 6.0"D x 15"W x 7.9"H
- Drawer size: 5.5"L x 2.7"W x 1.5"H
- Divider size: 2.4"L x 1.1"H • Weight: 4.7 lbs.

**Includes:** 20 clear plastic drawers, 20 dividers and 30 adhesive I.D. labels

✳ **Prepackaged: order in increments of 10**

| Part No. | Description | 1 | 10 |
|---|---|---|---|
| 81701ER | Component cabinet | $15.95 | $13.95 |
| 85454ER | Drawer for cabinet | .39 | .35 |
| 85446ER | Divider for drawer | ✳ | .19 |

## Bug Boxes




- Anti-static plastic
- Fits in bug cage (P/N 11332ER, see web)
- **11341ER:** stores sixty 8-pin or thirty 16-pin DIPs
- **11375ER:** Designed to store all types of components
- 6 ea. vertical & horizontal dividers

| Part No. | Description | 1 | 10 |
|---|---|---|---|
| 11341ER | 30 compartments | $3.95 | $3.49 |
| 11375ER | 3 compartments | 3.95 | 3.56 |

## Protective Coiled Grounding Wrist Strap

- Comfortable, adjustable Velcro wrist strap
- The coiled cord has banana plug and alligator clips
- Extended cord: 9' long
- Color: black

**Includes:** 1MΩ resistor for added safety

| Part No. | Description | 1 | 10 |
|---|---|---|---|
| 34551ER | Anti-static strap — NEW | $6.49 | $5.85 |

## Data-Vac Electric Duster

This compact, handheld Data-Vac electric duster is far less expensive and better for the environment than canned air. It quickly and easily blows dust, lint and debris off keyboards, computers, printers, disk drives, fax machines, photographic and other high-tech equipment. That helps prevent costly downtime and computer repair.

- 1.73 amps/0.5HP motor • 25 CFM/10,000FPM
- 12' UL approved power cord
- Attachments: air pin pointer & power air maximizer

| Part No. | Description | Wt. (lbs.) | Price |
|---|---|---|---|
| 219192ER | Data-Vac electric duster | 2.9 | ~~$49.95~~ $38.95 |

## Electronic Duster

Now you can use the same cleaning system that computer and copy-machine techs use nationwide. Its high power and 4-piece Micro Cleaning Tool Kit gets into all the nooks and crannies of your keyboard, computers, fax machines, printers, and scanners to bring them back to clean-room condition. Plus, its custom carrying case makes it easy to ensure high level performance of everything you own.

| Part No. | Description | Price |
|---|---|---|
| 219256ER | Data vac pro | ~~$59.95~~ $49.95 |
| 219264ER | Disposable bags | 4.99 |

## Non-Contact Infrared Thermometer w/ Laser Pointer

- Built-in laser pointer identifies target area
- Field of view: 6:1 (6" distance measures 1" target)
- Automatic data hold when trigger released and auto power off
- Fixed 0.95 emissivity covers 90% of surface application
- Temperature range: 0˚F to 600˚F (-20˚C to 320˚C)
- Basic accuracy: ±2% of reading
- 2000-count backlit LCD display
- Audible and visible over-range indicators
- Size: 8.3"L x 3.5"W x 1.5"D
- Weight: 0.4 lbs.

**Includes:** 9V battery

| Part No. | Product No. | 1 | 10 |
|---|---|---|---|
| 211588ER | 42529 — NEW | $88.95 | $84.50 |

## Digital Light Meter

- Lux and footcandle
- Range: 0 - 50,000 Lux 0 - 5,000 Fc
- Analog output connections
- Separate light sensor for optimum location sampling
- Dimensions (sensor probe): 3.2"L x 2.2"W x 0.5"H

| Part No. | Description | Price |
|---|---|---|
| 131764ER | Digital light meter | $99.95 |

## Hot no-touch thermometer technology at a very cool price.

Pocket Size

Take exact temperature readings with this tiny beauty in tight, unreachable or hazardous locations, from a safe distance and without the need for contact with the target. Just point the integrated laser pointer at the spot you want to measure and get a precise readout on the large, digital display. The data hold / max hold allows easy recording and comparison measurements, and a wide temperature range (-58°F to +518°F) gives you maximum flexibility. At just 2.7 ounces you can carry it anywhere. Flip a switch to shift from °F to °C for different applications. The 6:1 field of view can pinpoint hot spots easily. Works with two included AAA batteries.

Holiday Gift Idea

Best Seller

| Part No. | Description | Price |
|---|---|---|
| 219361ER | Extech no-touch thermometer | $59.99 |

## Electromagnetic Radiation Meter

Electromagnetic radiation is all around us, some of it not so friendly; but until now there's never been an easier, more portable device to detect and measure it. Whether you're concerned about your kid's playground near the power station, the laboratory, microwave oven emissions, or searching for clandestine surveillance devices; the ZAP Checker can give you a new measure of peace of mind. Its portability and multiple settings allow you to search out EMR whenever and wherever you want, from your home or office environments to hotel suites and conference rooms.

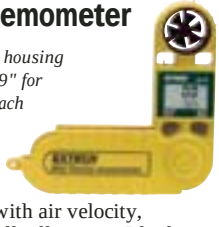
Best Seller

- Range: 10MHz to 4.5GHz

| Part No. | Description | Price |
|---|---|---|
| 217808ER | ZAP checker | $129.95 |

## Mini Thermo-Anemometer

*Foldable housing extends 9" for better reach*



Waterproof, pocket size with air velocity, temperature and windchill, all in one. Ideal for checking blowers, fans, exhaust hoods and balancing AC / HT ducts.

- Measures temperature and windchill from 0˚F to 122˚F (-18˚C to 50˚C)
- Measures wind speed in ft/min. MPH, m/s, km/h, knots and Beaufort force • Auto shut-off
- Large dual display for air velocity and temperature
- Water resistant housing floats and drop tested to 6'

**Includes:** CR2032 lithium battery and lanyard

| Part No. | Description | Price |
|---|---|---|
| 218085ER | Mini thermo-anemometer | $88.95 |

## Find your way with this digital compass and stopwatch combo.

This amazing digital compass will point you in the direction of high adventure. With a 2º of accuracy, it's smart enough to know exactly where you're heading, anywhere in the world, anytime. And speaking of time, an integrated stopwatch, timer and 12 / 24 hour clock are also included in this compact, water-resistant little wonder. As a primary guide or as a backup to your GPS, you'd be lost without it!

| Part No. | Description | Price |
|---|---|---|
| 236793ER | Digital compass & stopwatch | ~~$19.95~~ $9.95 |

## Hygro + Infrared Thermometer

Combination humidity meter plus infrared thermometer features a super large backlit dual display. The primary display is user selectable for IR or humidity, while the secondary display always displays ambient temperature. The infrared thermometer has a built-in laser pointer with an 8:1 distance to target ratio.

- ˚C/˚F
- Remote humidity sensor with 39" coiled cable
- Humidity ranges: 10.0 to 95.0% with ±3.5% accuracy
- Air temperature ranges: -4˚F to +140˚F (-20˚C to +60˚C) with ±3˚F/2˚C accuracy
- IR temperature ranges: -58˚F to +932˚F (-50˚C to +500˚C); ±2% or ±4˚F/2˚C accuracy
- Auto power off • Data hold and MAX
- Size: 2.8"W x 1.4"D x 5.9"H
- Weight: 0.5 lbs.

**Includes:** Stand, holster, probe, battery and case

| Part No. | Description | Price |
|---|---|---|
| 285974ER | Infrared thermometer — NEW | $148.95 |

COLOR CODE LEGEND... NEW SALE REFURBISHED CLOSEOUT

## A great bargain 2000-count multimeter for just $13.95

A full-featured multimeter with the basic functions needed for testing electronic equipment.

SALE

**Compared to simpler models this DMM features:**

- Greater resolution: 100uV max.
- Large 0.6" LCD backlit display
- 7 function / 17 ranges
- Data hold switch, backlight button
- Transistor $h_{FE}$ test
- **DC voltage ranges:** 200mV – 600V
- **AC voltage ranges:** 200V – 600V
- **DC current ranges:** 200uA – 10A
- **Resistance ranges:** 200Ω – 2MΩ
- Size: 5.4"H x 2.7"W x 1.2"D

GREAT Buy!

Holiday Gift Idea

| Part No. | Description | Price |
|---|---|---|
| 220759ER | Meter w/ diode & $h_{FE}$ test | $13.95 |

## 2000-Count Pocket Multimeter

- **DC voltage ranges:** 200mV, 2V, 20V, 200V, 1000V
- **AC voltage ranges:** 200V, 750V
- **DC current ranges:** 200µA, 2mA, 20mA, 200mA, 10A
- **Resistance ranges:** 200Ω, 2kΩ, 20kΩ, 200kΩ, 2MΩ
- Diode and transistor tests
- 0.5" digit height • Removable test leads
- Size: 2.6"W x 1.0"D x 4.8"H

**Includes:** 9V battery

| Part No. | Description | Price |
|---|---|---|
| 119212ER | Pocket multimeter | $19.95 |

## METEX® 2000-Count Multimeter

***0.5" Digit Height • LCD Readout***

- Resolution: 100µV maximum
- **DC voltage ranges:** 200mV – 100V
- **AC voltage ranges:** 200mV – 750V
- **DC/AC current ranges:** 20µA – 20A
- **Resistance ranges:** 200Ω – 20MΩ
- Auto zeroing
- Input impedance: 10MΩ
- Overload protection: 1000VDC/750VAC

**Includes:** Probes, carrying case, manual & 9V battery

| Part No. | Product No. | Price |
|---|---|---|
| 27115ER | M3800 | $39.95 |

## 2000-Count Multimeter

***With Temperature & Frequency Measurement***

- $3^1/_2$-digit LCD (1.0" digit height)
- Resolution: 100µV maximum
- **DC voltage ranges:** 200mV – 1000V
- **AC voltage ranges:** 200mV – 700V
- **DC/AC current ranges:** 200µA – 10A
- **Resistance ranges:** 200Ω – 200MΩ
- **Capacitance ranges:** 2nF – 20µF
- **Frequency:** 20kHz • Wt.: 1.6 lbs.
- **Temperature range:** -20˚C – 1000˚C
- Diode, transistor and continuity testing
- Data hold switch • Size: 4.0"W x 2.0"D x 8.0"H

**Includes:** Manual, probes, and 9V battery

| Part No. | Mfr. Cross Ref. No. | Price |
|---|---|---|
| 177480ER | AEEC2890 | $52.49 |

## Digital Multimeter Quick Selection Guide

All have VDC, VAC, Resistance and Current

* *See indicated page for more details on each product*

### Handheld & Bench-Type Digital Multimeters

| Part No. | Best Sellers | Manufacturer No. | * Page | Features: Display Count | Features: RS-232 PC Interface | Features: Analog Bargraph | Standard Functions: Autorange | Standard Functions: True RMS | Special Functions: Capacitance | Special Functions: Inductance | Special Functions: Frequency | Special Functions: Temperature | Special Functions: Diode Test | Special Functions: Logic Test | Special Functions: Continuity Test | Special Functions: Transistor $h_{FE}$ Test | Price |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 220855ER | ✔ | M83013 | Below | 2000 | | | | | | | | | | ✔ | | ✔ | ✔ | $9.95 |
| 27115ER | ✔ | Metex M3800 | Below | 2000 | | | | | | | | | | ✔ | | ✔ | ✔ | 39.95 |
| 119212ER | ✔ | JE110 | Below | 2000 | | | | | | | | | | ✔ | | | ✔ | 19.95 |
| 220759ER | | Mastech MAS830L | Left | 2000 | | | | | | | | | | ✔ | | ✔ | ✔ | 13.95 |
| 177480ER | ✔ | AEEC2890 | Below | 2000 | | | | | | ✔ | | ✔ | ✔ | ✔ | | ✔ | ✔ | 52.49 |
| 147096ER | | BelMerit DX460L | Below | 2000 | | | | | | ✔ | ✔ | ✔ | | ✔ | ✔ | ✔ | ✔ | 94.95 |
| 211650ER | | Extech MN26 | 65 | 4000 | | | | ✔ | | ✔ | | ✔ | ✔ | ✔ | | ✔ | | 39.95 |
| 137461ER | ✔ | Metex M3860D | 65 | 4000 | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | | ✔ | ✔ | ✔ | 149.95 |
| 117372ER | | Metex M3850D | 65 | 4000 | ✔ | ✔ | ✔ | | ✔ | | ✔ | ✔ | ✔ | ✔ | | ✔ | ✔ | 104.95 |
| 215589ER | | Metex M3890D | 65 | 4000 | ✔ | ✔ | ✔ | | ✔ | | ✔ | ✔ | | | ✔ | ✔ | ✔ | 99.95 |
| 144872ER | | Metex M4640A | 65 | 20,000 | ✔ | ✔ | | | ✔ | | ✔ | | ✔ | | | ✔ | ✔ | 132.95 |
| 136590ER | ✔ | Mastech MY65 | Below | 20,000 | | | | | ✔ | | ✔ | | | | | ✔ | ✔ | 73.49 |
| 185201ER | | B&K BK5380 | 65 | 50,000 | ✔ | | ✔ | ✔ | ✔ | | ✔ | | ✔ | | | ✔ | | 149.99 |
| 203801ER | | 8012A* | 65 | 2,000 | | | | | | | | | | | | | | 199.95 |
| 230586ER | | B940* | 65 | 4,000 | | ✔ | ✔ | ✔ | ✔ | | ✔ | | ✔ | | | ✔ | | 148.95 |
| 166852ER | | Metex MXD4660A* | 65 | 20,000 | ✔ | ✔ | | ✔ | | | ✔ | | ✔ | ✔ | ✔ | ✔ | ✔ | 249.95 |

*Benchtop multimeter

## 2000-Count Multimeter with Inductance

- Function and range annunciators
- Data hold
- Resolution: 100µV max.
- **DC voltage ranges:** 200mV – 1000V
- **AC voltage ranges:** 200mV – 750V
- **DC/AC current ranges:** 200µA – 10A
- **Resistance ranges:** 200Ω – 20MΩ
- **Capacitance ranges:** 2nF – 2000µF
- **Frequency ranges:** 2kHz – 20MHz
- **Inductance ranges:** 20mH – 20H
- Diode and continuity test
- Auto power off
- $Z_{IN}$ = 10MΩ
- Size: 4.0"W x 1.5"D x 8.0"H • Weight: 2.7 lbs.

BelMERIT

**Includes:** Manual, test probes and 9V battery

| Part No. | Product No. | Price |
|---|---|---|
| 147096ER | DX460L — NEW | $94.95 |

## Extremely Low Cost 7-Function 2000-Count Multimeter

- $3^1/_2$-digit LCD display (0.5" digit height)
- Resolution: 100µV maximum
- **DC voltage ranges:** 200mV – 500V
- **AC voltage ranges:** up to 500V
- **DC current ranges:** 200µA – 10A
- **Resistance ranges:** 200Ω – 2000kΩ
- Diode, continuity and transistor $h_{FE}$ test
- Size: 2.7"W x 1.0"D x 5.0"H

Holiday Gift Idea

| Part No. | Product No. | Price |
|---|---|---|
| 220855ER | M830B | $9.95 |

***More Test Equipment Located on Our Website. Log on Today @ www.Jameco.com***

## 2000-Count Digital LCR Meter

- **Inductance ranges:** 200µH to 200H
- **Capacitance ranges:** 200pF to 2000µF
- **Resistance ranges:** 2mΩ to 20MΩ
- Dissipation factor measurement
- Size: 6.7"L x 3.3"W x 1.4"D
- One-year warranty

**Includes:** Test leads and 9V battery

| Part No. | Description | Price |
|---|---|---|
| 127538ER | LCR meter | $149.95 |

## Our Lowest-Priced 20,000-Count Multimeter

- Extra-large digits (0.8" digit height)
- Resolution: 10µV maximum
- **DC voltage ranges:** 200mV – 1000V
- **AC voltage ranges:** 2V – 700V
- **DC/AC current ranges:** 2mA – 10mA
- **Resistance ranges:** 200Ω – 200MΩ
- **Capacitance ranges:** 200pF – 20µF
- Measures transistor $h_{FE}$ & continuity
- Hold button
- Auto power off
- CE approved

**Includes:** Boot, 9V battery, probes & manual

| Part No. | Product No. | Price |
|---|---|---|
| 136590ER | MY65 | $73.49 |

## 17MHz Logic Probe

- Max input frequency: 17MHz
- Minimum pulse width: 30ns
- Input impedance: 1MΩ
- Pulse flash time: 500ms
- Audible tones for high and low
- Power supply protection: ±20V
- TTL threshold: (Lo) 0.8V ±0.2V, (Hi) 2.3V ±0.2V
- CMOS threshold: (Lo) 30% VCC, (Hi) 70% VCC

| Part No. | Description | Price |
|---|---|---|
| 149930ER | Logic probe | $29.95 |

## 4000-Count, 11-Function Multimeter with Autorange

- 4000-count large LCD display
- Auto ranging with manual override
- Resolution: 0.1mV max.
- **AC/DC voltage ranges:** 400mV – 600V
- **AC/DC current ranges:** 400µA – 10A
- **Resistance ranges:** 400Ω – 40MΩ
- **Capacitance ranges:** 4nF – 200µF
- **Frequency ranges:** 10Hz – 10MHz
- **Temperature ranges:** 0˚F – 1400˚F (0˚C – 760˚C)
- Diode test, duty cycle and continuity
- Relative zero, data hold, range hold, auto off

**Includes:** Protective holster with stand, two 1.5V AAA batteries and test leads

| Part No. | Description | Price |
|---|---|---|
| 211650ER | Multimeter | $39.95 |

## 4000-Count Multimeter with RS-232, Dual Display & Inductance

- Dual displays for comparative measurements
- 3¾-digit LCD (⅝" digit height)
- Resolution: 100µV maximum
- **DC voltage ranges:** 400mV – 1000V
- **AC voltage ranges:** 400mV – 750V
- **DC/AC current ranges:** 400µA – 20A
- **Resistance ranges:** 400Ω – 40MΩ
- **Temp.:** -40˚C to +1200˚C; 1˚C res.
- Measures inductance, capacitance, transistor $h_{FE}$ and frequency
- Autoranging all measurement settings

**Includes:** 9V battery, software and cable

| Part No. | Product No. | Price |
|---|---|---|
| 137461ER | M3860D | $149.95 |

## 4000-Count Multimeter w/ RS-232, Temperature & Autorange

- 3¾-digit LCD (0.63" digit height)
- RS-232C computer interface
- Resolution: 100µV max.
- **DC voltage ranges:** 400mV – 1000V
- **AC voltage ranges:** 400mV – 750V
- **DC/AC current ranges:** 400µA – 20A
- **Resistance ranges:** 400Ω – 40MΩ
- **Temperature:** -40˚C to +1200˚C
- Diodes and continuity • Data hold switch
- Measures transistor $h_{FE}$, frequency, and capacitance
- Autoranging all scale settings • One-year warranty
- Size: 3.3"W x 1.8"D x 7.2"H • Weight: 1.8 lbs.

**Includes:** Manual, software, RS-232 interface cable, temperature probe and probes

| Part No. | Product No. | Price |
|---|---|---|
| 117372ER | M-3850D — NEW | $104.95 |

## 4000-Count Multimeter with Triple Display, USB Interface and Temperature

- 3¾-digit LCD display with triple display (main/sub1/sub2) and analog bar (0.76" digit height)
- Dual-display readout for temperature in ˚C and ˚F
- Data hold, memory, relative offset, recall, range, minimum/maximum hold functions
- Auto power off • Auto ranging
- Computer interface: USB-A male to USB-B male cable with Windows® 98/ME/2000 software
- **DC voltage ranges:** 400mV – 1000V
- **AC voltage ranges:** 4V – 750V
- **DC current ranges:** 400µA – 20A
- **AC current ranges:** 400µA – 20A
- **Resistance ranges:** 400Ω – 40MΩ
- **Capacitance ranges:** 4nF – 200µF
- **Frequency ranges:** 4kHz – 4MHz
- **Temperature:** -40˚F to 2192˚F (-40˚C to 1200˚C)
- Diode, continuity, transistor $h_{FE}$, and logic test
- Size: 3.5"W x 1.7"D x 7.8"H • Weight: 1.6 lbs.

**Includes:** Manual, probes, K-type thermocouple, USB-A male to USB-B male cable, software and 9V battery

| Part No. | Product No. | 1 |
|---|---|---|
| 215589ER | M-3890D — NEW | $99.95 |

## 20,000-Count Multimeter w/ RS-232 & Multi-Display

- 0.63" digit height
- LCD readout
- Multi-display: 4 simultaneous displays for relative and comparative measurements
- Resolution: 10µV maximum
- **DC voltage ranges:** 200mV – 1000V
- **AC voltage ranges:** 200mV – 750V
- **DC/AC current ranges:** 2mA – 20A
- **Resistance ranges:** 200Ω – 20MΩ
- **Capacitance ranges:** 20nF – 200µF
- **Frequency ranges:** 20kHz – 2MHz
- Diode/continuity: measures forward resistance of a semiconductor junction in kΩ with a test current of approximately 1mA
- Measures transistor $h_{FE}$
- Size: 3.3"W x 1.5"D x 7.5"H • Weight: 2.0 lbs.
- LCD size: 2.4"W x 1.3"H • One-year warranty

**Includes:** Software, test leads, PC interface cable, manual and 9V battery

| Part No. | Product No. | Price |
|---|---|---|
| 144872ER | M-4640A — NEW | $132.95 |

## 50,000-Count Digital Multimeter with Analog Bar Graph

- True RMS reading • 0.55" digit height
- Auto and manual ranging • AC/DC voltage protection
- Continuity and diode testing • Basic DC accuracy: BK5380 – 0.025%
- **DC voltage:** 500mV to 1000V (10uV to 100mV resolution)
- **Resistance:** 500Ω-50MΩ (10mΩ-1kΩ)
- **Frequency:** 0.6Hz – 500kHz
- **Capacitance:** 50nF – 50mF (10pF – 10µF res.)

**Includes:** Probes and manual

| Part No. | Product No. | Price |
|---|---|---|
| 185201ER | BK5380 | $149.99 |

## 2000-Count Multimeter

The Fluke 8012A is a portable, bench-type, digital multimeter with 3½ digit liquid crystal display (LCD).

- Resolution: 100µV maximum
- **DC voltage ranges:** 200mV – 1000V
- **AC voltage ranges:** 200mV – 700V
- **DC/AC current ranges:** 20µA – 2A
- **Resistance ranges:** 2Ω – 20Ω (low range) 200Ω – 20MΩ
- **Conductance ranges:** 2µS – 200nS
- Size: 7.5"W x 9.6"D x 2.5"H
- Weight: 2.6 lbs. † Refurbished

| Part No. | Product No. | Price |
|---|---|---|
| 203801ER | 8012A† | $199.95 |

## 4000-Count True RMS Benchtop Multimeter with RS-232

- 9 functions, 32 ranges
- 3¾-digit backlit LCD display with bargraph
- Auto/manual ranging
- True RMS AC volts and amps
- Resolution: 100µV maximum
- **DC voltage ranges:** 400mV – 1000V (0.3% accuracy)
- **AC voltage ranges:** 4V – 750V
- **DC/AC current ranges:** 4mA – 10A
- **Resistance ranges:** 400Ω – 40MΩ
- **Capacitance ranges:** 4nF – 40µF
- **Frequency ranges:** 100Hz – 600kHz
- Diode and continuity test • Delay hold mode
- Min., max., and relative hold function
- Input voltage: 9V battery or 90-132VAC/ 198-264VAC @ 50-60Hz
- Size: 9.0"W x 9.4"D x 3.3"H
- Weight: 3.3 lbs.
- Two-year warranty

**Includes:** Manual, test leads, power adapter, 9V battery, RS-232 cable and software (98/ME/2000/XP compatible)

| Part No. | Product No. | Price |
|---|---|---|
| 230586ER | B940 | $148.95 |

## 20,000-Count Benchtop Multimeter w/ RS-232, Analog Bar & 4 Displays

- Automatic polarity indicator
- 1-2 readings per second
- DC accuracy: 0.1% +5 digits
- 10 reading storage & compare
- Resolution: 10µV maximum
- **DC voltage ranges:** 200mV – 1000V
- **AC voltage ranges:** 200mV – 750V
- **DC/AC current ranges:** 2mA – 20A
- **Resistance ranges:** 200Ω – 20MΩ
- **Frequency ranges:** 20kHz – 20MHz
- MIN., MAX., AVE., relative functions
- Logic, diode, transistor $h_{FE}$ and continuity test

**Includes:** Manual, power cable, probes and software

| Part No. | Product No. | Price |
|---|---|---|
| 166852ER | MXD4660A | $249.95 |

www.Jameco.com

COLOR CODE LEGEND... NEW SALE REFURBISHED CLOSEOUT

## Passive Component LCR Meter

- Measures L, C, and R with secondary parameter Q, D or R; both are displayed
- Accuracy of 0.7% for L & C, 0.5% for R
- **Inductance ranges:** 2000.0µH to 2000.0H
- **Capacitance ranges:** 2000.0pF to 2000.0µF
- **Resistance ranges:** 20.000Ω to 20.000MΩ
- Test frequencies of 120Hz and 1kHz
- Quality (Q) reading: 0 to 9999
- Dissipation Factor (D) (with C) reading: 0 to 0.9999
- Selectable parallel or series equivalent circuit
- Set HI/LO limits, absolute or percentage
- Bidirectional RS-232 port with optional software
- Max./Min./Avg. recording with auto power off

**Includes:** Leads, alligator clips, 9V battery & holster

| Part No. | Description | Price |
|---|---|---|
| 198678ER | LCR Meter | $178.95 |

## Mini DC/AC Current Clamp Meter/Multimeter

- Bright 1/2" LCD display with DATA HOLD
- 0.5" digit height
- Size: 7.1"L x 1.9"W x 1.4"H

| | | |
|---|---|---|
| ACA* | 20A, 200A | ±1.2% + 5d |
| DCA | 200A | ±1.2% + 5d |
| ACV* | 500V | ±1.0% + 2d |
| DCV | 200V | ±0.8% + 1d |
| Resistance | 200Ω | ±1.2% + 1d |
| *Freq.Response | 40-400Hz | |
| Zero Adjust | External knob for DCA | |

**Requires:** 9V battery not included (P/N 151095ER, pg 47)

**Includes:** Test leads, manual and case

| Part No. | Description | Price |
|---|---|---|
| 115756ER | Mini DC/AC clamp meter | $119.95 |

## 150kHz Sine/Square-Wave Audio Generator

Small and convenient, this audio generator can be used to test telco and audio equipment.

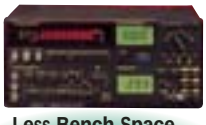
- 20Hz to 150kHz in 46 steps
- Low distortion R-C oscillator
- Variable output control
- Size: 5.9"L x 3.2"W x 0.8"H
- Output Impedance: 600Ω

**Includes:** 9VDC battery

| Part No. | Prod.No. | Description | Price |
|---|---|---|---|
| 166334ER | BK3001 | Audio generator | $78.95 |

## 4-in-1 Universal System

***With Function Generator, Universal Counter, DC Power Supply & Digital Multimeter***



Less Bench Space–Great Convenience

- Generate 7 forms of waves in 7 frequency ranges from 0.2Hz to 2MHz
- Measure frequency ranges from 5Hz to 1.3GHz
- Generate 5V @ 2A, 15V @ 1A fixed and 0 to 30V @ 0 to 2A variable
- Ranges: DC voltage (400mV to 100V), AC voltage (400mV to 750V), DC/AC current (40mA to 20A), resistance (400Ω to 40MΩ), capacitance (4nF to 400µF) and forward resistance of a semiconductor junction in kΩ • Size: 14.5"W x 14.0"D x 7.0"H

**Includes:** Manual, cables and software

| Part No. | Product No. | Weight | Price |
|---|---|---|---|
| 160864ER | MS9150 | 37 lbs. | $549.95 |

## 2MHz Function Generator and 2.7GHz Frequency Counter

***Function Generator: (2Hz - 2MHz)***

- Wave forms: sine, square, triangle, skewed, ramp, pulse & TTL level square
- Frequency: 2Hz to 2MHz in 7 ranges
- Output impedance: 50Ω ±10%
- Output amplitude: 2 to 20Vpp at open load; 1 to 10Vpp at 50Ω load
- Offset variable range (max.): ±10VDC at open load
- Frequency sweep time: 20ms to 2s

**Frequency Counter: (5Hz - 2.7GHz)**

- Measuring range: channel A: 1Hz to 20MHz; channel B: 20MHz to 2.7GHz
- Input sensitivity: channel A: 20mVRMS sinewave or 100mVp-p; channel B: 40mVRMS for 20MHz to 1.3GHz; 70mVRMS for 1.3GHz to 2.7GHz
- Max. input voltage: channel A: 35Vp-p; channel B: 3Vp-p
- Input impedance: channel A, 1MΩ; channel B, 50Ω
- Data logging and graphic software

**Includes:** Coax & power cable, manual, serial cable and software

| Part No. | Description | Price |
|---|---|---|
| 192671ER | Function generator/counter | $319.95 |

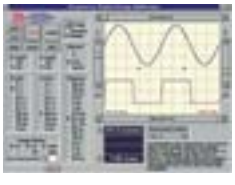
## 2MHz Function Generator

- Frequency range: 0.02Hz to 2MHz
- Waveforms: sine, triangle, square, ramp, TTL pulse, skewed sine
- Variable waveform/duty cycle symmetry
- DC offset voltage from 0 to ±10V; can be superimposed to output waveform
- Output volt.: 20Vp-p (open circuit), 10Vp-p (into 50Ω)
- Input voltage: 110V/220V 50-60Hz

**Includes:** Power cord, BNC to clip cable, fuse & manual

| Part No. | Product No. | Price |
|---|---|---|
| 66069ER | FG8002 | $189.95 |

## PC-MultiScope 100MHz Dual-Channel DSO



Turn your PC into a digital storage oscilloscope for 1/2 the cost of a DSO!

mission technology

- 100MHz sampling; dual channel
- Chart recorder and FFT mode
- 5mV to 5V per div.; 20MHz bandwidth; ext. trigger
- 0-4MHz sine and square wave signal generator
- Triple power supply; 5VDC @ 500mA and ±0-8VDC @ 250mA • One-year warranty

**Includes:** Parallel port cable, AC adapter, alligator clip probe, Windows® 3.1/95/98 software

| Part No. | Description | Price |
|---|---|---|
| 163230ER | PC-MultiScope 3 | $579.95 |

## Handheld 5MHz Oscilloscope with 4000-Count Digital Multimeter

221962ER

- 128 x 128 pixel graphic STN LCD
- E/L backlight
- PC interface via RS-232
- Memory and recall for 4 values
- With temp. measurement

**Oscilloscope:**

- DC-5MHz bandwidth; 20MS/sec. sampling rate; single channel
- Vertical axis: 3 steps (±0.5/5/50 volts) with 4 divisions
- Horizontal axis: 16 steps (800ns/div to 26.2ms/div) in 8 divisions
- Trigger: auto and internal mode, slope and 5 trigger level selectable
- Text display for peak to peak, min./max. voltage and frequency

**Digital Multimeter:**

- 3¾-digit with 43 segment bargraph
- Auto ranging; triple display for related reading; data and range hold; auto/min/max hold and relative offset
- **DC voltage ranges:** 400mV – 1000V
- **AC voltage ranges:** 4V – 750V
- **DC/AC current ranges:** 400uA – 400mA
- **Resistance ranges:** 400Ω – 40MΩ
- **Frequency ranges:** 4kHz – 4MHz
- **Temp. ranges:** -40˚C – +1200˚C
- **Capacitance ranges:** 4nF – 400µF
- Size: 3.4"W x 1.5"D x 8.0"H • Weight: 3.9 lbs.

**Includes:** Manual, power adapter and test leads

| Part No. | Description | Price |
|---|---|---|
| 221962ER | MS-1280 (w/ temperature) | $349.95 |
| 221938ER | RS-232 cable & software | 19.95 |
| 221946ER | Scope probe | 24.95 |
| 221954ER | Holster | 5.95 |

## Handheld 20MHz Digital Oscilloscope & Multimeter

162430ER

(Shown w/ logic probe P/N 162974ER – not included)

- 4-in-1: digital oscilloscope, DMM, frequency counter & logic analyzer
- **Oscilloscope**: 2-channel input, 5mV-2V/div; DC-20MHz(-3dB); 50ns - 0.5us/div; 20 MS/s sampling rate
- **Logic analyzer:** 8 inputs; 1.4V threshold level; 35VDC max. input; 50ns min. pulse width
- **Digital multimeter:** 3¾-digit (max. 3999 counts); 40 segment analog bargraph; AC/DC voltage 400mV-600V; AC current 40µA-400mA; DC current 400µA-400mA; resistance 400Ω-40MΩ; continuity & diode testing
- **Frequency counter:** 5Hz-20MHz; 5 digit max.; autoranging; AC/DC/DC input coupling; ±10ppm accuracy; 35Vrms/42V-P/60VDC max. input
- Oscilloscope probes: Use P/N 22891ER and 216047ER, pg 69 • One-year warranty
- Battery required for portable use (see below)
- Size: 10.0"L x 5.0"W x 2.0"H • Weight: 9.2 lbs.

**Includes:** Manual, 5VDC @ 3A power supply, power cord, DMM test leads, holster and case

| Part No. | Description | Price |
|---|---|---|
| 162430ER | 20MHz digital scope | $749.95 |
| 162974ER | Logic probe | 59.95 |
| 163141ER | Rechargeable battery | 45.95 |
| 162966ER | RS-232 cable and software | 26.95 |
| 221946ER | Scope probe | 24.95 |

**More Test Equipment @ www.Jameco.com**

## 20MHz 2-Channel Oscilloscope

EZ DIGITAL

Blue CRT for higher resolution!

- 6" rectangular high-resolution blue CRT with internal graticule & scale
- Vertical deflection: 5mV/div to 5V/div in 10 calibrated steps
- Horizontal deflection: 0.2µs/div to 0.2s/div in 19 calibrated steps, 1-2-5 sequence
- Max. signal input voltage: 250V (DC and peak AC)
- ADD function measures sum of two signals
- Input voltage: 98-125VAC @ 1A, 198-225VAC @ 0.5A, 50-60Hz, 45W

**Includes:** Two X1/X10 40MHz probes, power cord, manual, and block diagram

| Part No. | Prod. No. | Description | Price |
|---|---|---|---|
| 136098ER | OS5020 | 20MHz scope | $399.95 |

EZ DIGITAL

## 20MHz 2-Channel Oscilloscope with 1MHz Function Generator

2 Instruments in 1

- Basic specs same as 136098ER (above)

**7 Function Generator**

- Frequency range: sine, triangle, square, TTL pulse
- Output impedance: 50Ω • Output voltage: 14Vp-p

| Part No. | Product No. | Description | Price |
|---|---|---|---|
| 94650ER | OS5020G | Function generator | $529.95 |

## 20MHz 2-Channel Analog Oscilloscope with Built-in Component Checker

Protek

- 6" rectangular CRT with internal graticule
- Built-in component checker/tester for resistors, capacitors, coils, diodes
- Vertical sensitivity: 5mV/div to 20V/div in 12 calibrated steps (1-2-5 sequence)
- Input impedance: 1MΩ, 20pF
- Max. input (vertical amplifier): 300VDC or AC peak
- Horizontal sweep time: 0.2µs/div to 0.5s/div in 20 calibrated steps (1-2-5 sequence)
- Internal trigger sensitivity: 20Hz to 20MHz
- Size: 17"L x 14"W x 5.75"H • Weight: 15.5 lbs.

**Includes:** Two X1/X10 60MHz probes, power cord, and operations manual

| Part No. | Product No. | Price |
|---|---|---|
| 201857ER | P-3502C — NEW | $394.95 |

PROBE MASTER

## Oscilloscope Probe

Designed for use with Tektronix and Hewlett Packard oscilloscopes.

- 3 position switch: x1, ref, x10
- Bandwidth @ 3dB: 10MHz (x1); 150MHz (x10)
- Loading: 57pF, 1MΩ (x1); 15pF, 10MΩ (x10)
- Low-resistance gold contacts • Cord length: 5'

| Part No. | Product No. | Price |
|---|---|---|
| 174473ER | 4901-02 (150MHz) — NEW | $49.95 |

## 50MHz Digital PC-Based Oscilloscope, Spectrum Analyzer and Transient Recorder

velleman

- Sampling frequency: 1.25kHz–50MHz real-time; 1GHz repetitive
- Input impedance: 1MΩ/30pF
- Parallel port interface
- Inputs: 2 channels, 1 external trigger input
- Max. input voltage: 100V (AC and DC)
- Power required: 9V to 10V @ 1000mA (recommend P/N 100888ER, pg 38)

**Oscilloscope:**

- Timebase: 20ns–100ms per division
- Input sensitivity: 5mV–15V per division w/auto step-function • Rec.: 4096 samples per channel

**Spectrum Analyzer:** • Frequency range: 0 to 25MHz

**Transient Recorder:** • Time scale: 20ms/div–2000s/div

- Max. recording time: 9.4 hours/screen
- Max. number of samples: 100/s

**System requirements:** IBM compatible PC, Windows® 95/98/ME, SVGA card, mouse, printer port, CD-ROM

**Includes:** 2 test leads, PC parallel cable, manual and CD-ROM software

| Part No. | Product No. | Price |
|---|---|---|
| 200184ER | PCS500AU | $478.95 |

## 150-Watt Linear Power Supply

***15VDC @ 10A***

- Output voltage: 2VDC to 15VDC
- Output current: 15A max.
- Constant voltage operation
- Color-coded terminals for positive and negative terminals, voltage adjustment knob
- Overvoltage, overcurrent, short-circuit protection
- Cigarette lighter output current plug
- LED indicator for power and warning
- Current and voltage panel meter • Built-in fan
- Input voltage: 110VAC @ 60Hz
- Size: 5.7"L x 6.2"W x 4.0"H • Weight: 12.0 lbs.

| Part No. | Mfr. Cross Ref. No. | Price |
|---|---|---|
| 175265ER | DPS150A — NEW | $149.95 |

## 150-Watt Analog Power Supply

***50VDC @ 3A***

SALE

- Adjustable voltage/current outputs
- Constant voltage & current operation
- Color-coded terminals for ground, positive and negative terminals
- 3A @ 115V fuse
- Color-coded adjustment knobs for voltage, current and fine adjustment
- Input voltage: 110VAC @ 60Hz
- Size: 9.0"L x 4.75"W x 7.5"H • Weight: 12.3 lbs.

| Part No. | Description | Price |
|---|---|---|
| 163723ER | 50VDC @ 3A | ~~$159.95~~ $143.95 |

***Over 99% of our products are in stock! Place your order by 6PM EST for same business day shipment.***

***1-800-455-6119 www.Jameco.com***

## 30-Watt Digital Power Supply

***1.5VDC to 30VDC@ 1A***

NEW

LASCAR

- Single output with adjustable 1.5VDC to 30VDC
- 1A fixed current output
- Large digit backlit display
- Overload and short circuit protection
- Compact design
- Input voltage: 85-264VAC @ 47-63Hz
- Output terminals • ON/OFF switch
- Size: 5.5"L x 5.2"W x 1.6"H • Weight: 1.2 lbs.

| Part No. | Product No. | Price |
|---|---|---|
| 301971ER | PSU-130 | $79.95 |

## 250-Watt Analog Power Supply

***50VDC @ 5A***

- Adjustable voltage/current outputs
- Constant voltage & current operation
- Color-coded adjustment knobs for voltage, current, and fine tuning
- Color-coded terminals for ground, positive, negative
- 5A @ 250V fuse
- Isolated ground
- Input voltage: 110VAC @ 50-60Hz
- Size: 4.9"L x 7.7"W x 6.7"H
- Weight: 13.8 lbs.

| Part No. | Mfr. Cross Ref. No. | Price |
|---|---|---|
| 175249ER | DPS5050 | $189.95 |

## 100-Watt Digital DC Power Supply

***30VDC @ 3A***

EXTECH INSTRUMENTS

- Triple output with fixed 5VDC @ 0.5A, 12VDC @ 0.5A
- Adjustable 0 – 30V voltage and 0 – 3A current outputs
- Displays of both voltage and current
- Constant voltage
- Current limiting indicator
- Overload and short circuit protection
- Binding post terminals for variable supply
- Input voltage: 110/220VAC @ 50-60Hz (switchable)

| Part No. | Description | Price |
|---|---|---|
| 197991ER | Digital DC — NEW | $198.95 |

## 150-Watt Digital Power Supply

***30VDC @ 5A***

- Adjustable voltage/current outputs
- Constant voltage and current operation
- LCD displays for both current and voltage
- Coarse and fine adjustment knobs for current and voltage
- Color-coded terminals for positive, negative and ground connections
- 2A @ 250V fuse
- Input voltage: 110/220VAC @ 50-60Hz (switchable)

| Part No. | Description | Price |
|---|---|---|
| 153242ER | 30VDC @ 5A | $234.95 |

COLOR CODE LEGEND... NEW SALE REFURBISHED CLOSEOUT

## 100W to 600W Benchtop Power Supplies

- Voltage and current adjustable
- Current restricted and short-circuit protection
- Input voltage: 110/220 ±10% VAC

**Analog display power supplies**
- Accuracy: 2.5%

**Digital display power supplies**
- Voltage accuracy: 1% + 2 digits
- Current accuracy: 1.5% + 2 digits

Expanded Selection

207618ER

207706ER

211705ER

### *Single Output*

| Part No. | Product No. | Displays | Power (W) | Voltage (VDC)/Current (A) | Size (W"xH"xD") | Weight (lbs.) | Price |
|---|---|---|---|---|---|---|---|
| 301920ER | HY1503C | 2-Analog | 45 | 15/5 | 3.8 x 6.3 x 9.1 | 8.8 | $99.95 |
| 301866ER | HY3003D | 2-Analog | 90 | 30/3 | 5.4 x 6.2 x 11.5 | 14 | 179.95 |
| 207618ER | HY3005C | 2-Analog | 150 | 30/5 | 5.4 x 6.2 x 11.5 | 14 | 159.95 |
| 207626ER | HY3010C | 2-Analog | 300 | 30/10 | 10.4 x 6.5 x 14.4 | 28 | 299.95 |
| 207693ER | HY5002 | 2-Digital | 100 | 50/2 | 5.4 x 6.2 x 11.5 | 13 | 189.95 |
| 301911ER | HY3005D | 2-Digital | 150 | 30/5 | 5.4 x 6.2 x 11.5 | 13 | 224.95 |
| 207706ER | HY5003 | 2-Digital | 150 | 50/3 | 5.4 x 6.2 x 11.5 | 14 | 249.95 |
| 207600ER | HY5005 | 2-Digital | 250 | 50/5 | 10.4 x 6.5 x 14.4 | 28 | 299.95 |
| 207634ER | HY3010 | 2-Digital | 300 | 30/10 | 10.4 x 6.5 x 14.4 | 32 | 399.95 |
| 207685ER | HY3020 | 2-Digital | 600 | 30/20 | 10.4 x 6.5 x 14.4 | 46 | 499.95 |

### *Multiple Output*

| Part No. | Product No. | Displays | Power (W) | Voltage (VDC)/Current (A) | Size (W"xH"xD") | Weight (lbs.) | Price |
|---|---|---|---|---|---|---|---|
| 211721ER | HY3002-2 | 2-Digital | 120 | 0-30/2; 0-30/2 | 10.4 x 6.5 x 14.4 | 23 | $249.95 |
| 211705ER | HY3002D-2 | 4-Digital | 120 | 0-30/2; 0-30/2 | 10.4 x 6.5 x 14.4 | 23 | 269.95 |
| 211692ER | HY3003D-2 | 4-Digital | 180 | 0-30/3; 0-30/3 | 10.4 x 6.5 x 14.4 | 28 | 289.95 |
| 211730ER | HY3003-2 | 2-Digital | 180 | 0-30/3; 0-30/3 | 10.4 x 6.5 x 14.4 | 28 | 299.95 |
| 211713ER | HY3003-3 | 2-Digital | 195 | 0-30/3; 0-30/3; 5/3 | 10.4 x 6.5 x 14.4 | 29 | 319.95 |
| 211684ER | HY3003D-3 | 4-Digital | 195 | 0-30/3; 0-30/3; 5/3 | 10.4 x 6.5 x 14.4 | 29 | 329.95 |
| 301946ER | HY3005D | 4-Digital | 300 | 0-30/5; 0-30/5 | 10.4 x 6.5 x 14.4 | 29 | 349.95 |
| 301954ER | HY3005D-3 | 4-Digital | 315 | 0-30/5; 0-30/5; 5/3 | 10.4 x 6.5 x 14.4 | 29 | 369.95 |
| 301962ER | HY5003-2 | 2-Digital | 300 | 0-50/3; 0-50/3 | 10.4 x 6.5 x 14.4 | 29 | 339.95 |

## Resistance and Capacitance Decade Substitution Boxes

Wide-range decade substitution boxes for product design or calibration checks.

EXTECH INSTRUMENTS

- Light durable construction
- Case may be grounded separately
- Three binding posts permit isolated substitutions
- Size: 4.7"W x 5.7"H x 1.4"D
- Weight: 0.7 lbs.

**211668ER:**
- 1% resistance substitution from 1Ω to 11.111110MΩ
- 7 decade ranges of resistance
- Values can be changed in 1Ω increments

**211676ER:**
- 5% capacitance substitution from 100pF to 11,111µF
- 5 decade ranges of capacitance

211668ER

211676ER

| Part No. | Description | Price |
|---|---|---|
| 211668ER | Resistance — NEW | $98.95 |
| 211676ER | Capacitance — NEW | 128.95 |

***Over 99% of our products are in stock! Place your order by 6PM EST for same business day shipment.***

***1-800-455-6119 www.Jameco.com***

## Pomona® Test Lead Holders

- Length: 11"

155977ER

**155985ER:**
- Max cable dia.: 0.450"
- Color: blue

**155977ER:**
- Max cable dia.: 0.320"
- Color: black

**155969ER:** • Max cable dia.: 0.210" • Color: orange

| Part No. | Prod. No. | No. of Slots | 1 | 10 |
|---|---|---|---|---|
| 155985ER | 2708B | 9 | $9.95 | $9.45 |
| 155977ER | 4408 | 10 | 9.95 | 9.45 |
| 155969ER | 1508 | 14 | 9.95 | 9.45 |

## Double Binding Posts – Dual Banana

- Red/black design
- Screw-mount
- 0.72" between posts
- Size: 1.6"L x 1.4"W

| Part No. | Description | 1 | 10 |
|---|---|---|---|
| 125196ER | Screw mount bind post | $3.95 | $3.45 |

## BNC to Double Binding Posts – Dual Banana

- Red/black design

125233ER

| Part No. | Description | 1 | 10 |
|---|---|---|---|
| 125233ER | BNC-female | $4.95 | $4.49 |
| 99354ER | BNC-male | 5.29 | 4.76 |

## BNC to Standard Double Banana Plugs

11439ER

125225ER

Permits BNC cables to be used with equipment having banana jacks. Lower connection: BNC; upper connection: double banana plug on .750" centers. Cross holes .166" diameter in body provide side stack-up connections.

| Part No. | Description | 1 | 10 |
|---|---|---|---|
| 11439ER | BNC banana plug (F) | $4.95 | $4.49 |
| 125225ER | BNC banana plug (M) | 5.49 | 4.95 |

## 1" Screw-Type Binding Posts

- For both wire and standard banana
- 0.16" hole for banana test leads
- Chassis mount with lock washer and nut
- Solder tab hole: 0.06"Dia.
- Size: 1.0"L x 0.5"Dia.

**Requires:** 0.32" mounting hole

**Includes:** One red and one black insulated post

| Part No. | Description | 1 | 10 |
|---|---|---|---|
| 71239ER | Binding posts (2) — NEW | $.99 | $.85 |

## 1 9/16" Banana Plugs

- .1875" lead opening
- Set-screw connection
- Standard banana spring plug
- Additional 6-32 threaded hole for connection reliability
- Insulating sleeve is threaded to banana plug body

**Includes:** One red and one black plug

| Part No. | Description | Size | 1 | 10 |
|---|---|---|---|---|
| 72194ER | Banana plugs | 1.6"L x 0.4"Dia. | $1.59 | $1.49 |

## Double Banana Plugs

- Dual gold-plated female banana plugs
- Stackable

125217ER

| Part No. | Description | 1 | 10 |
|---|---|---|---|
| 125209ER | Blk banana connector | $2.65 | $2.39 |
| 125217ER | Red banana connector | 1.99 | 1.79 |

## Mini Test Clips

- Two lengths
- One black and one red hooked probe clip

| Part No. | Description | 1 | 10 |
|---|---|---|---|
| 114809ER | 1.75" mini test clips | $1.89 | $1.49 |

## Solderless Banana Plug Sets

159863ER

159855ER

159927ER

- Nickel-plated • Set screws secure leads
- ABS insulation • 5000VDC @ 15A • 50˚C max.
- Color: 1 red and 1 black per set

**159863ER:** Solderless with safety collar & set screw

**159855ER:** Solderless with set screw

**159927ER:** Solderless double banana plug w/ wire guide

| Part No. | Product No. | 1 | 10 |
|---|---|---|---|
| 159863ER | 1825-02 set — NEW | $2.65 | $2.50 |
| 159855ER | 1325-02 set — NEW | 3.29 | 2.99 |
| 159927ER | MDP-02 set — NEW | 4.69 | 4.38 |

## BNC to Clip Test Cables

11421ER 11463ER

BNC connectors are designed for signal frequencies into the gigahertz range, making them ideal for communications, video & test equipment.

• Micro-clip or mini-clip • Length: 39"

| Part No. | Description | 1 | 10 |
|---|---|---|---|
| 11421ER | Micro-clip RG174 — NEW | $3.99 | $3.19 |
| 11463ER | Mini-clip RG174 | 4.39 | 3.99 |

## Pomona® Stackable Banana Test Lead Cables

159898ER 159901ER 159919ER

• 5000V @ 15A • 55˚C max.

**159919ER:** Two 36" leads, mini clip w/ banana

• 45VAC @ 5A max.; beryllium copper contact and glass filled insulation

**159901ER:** Two 24" leads **159919ER**: Two 36" leads

| Part No. | Prod. No. | Description | 1 | 10 |
|---|---|---|---|---|
| 159898ER | 3782-36 | Mini w/ banana | $7.95 | $7.19 |
| 159901ER | B-24-02 | Patch cord | 9.95 | 8.95 |
| 159919ER | B-36-02 | Patch cord | 9.95 | 8.95 |

## BNC to Alligator Clip Test Cable

Permits BNC assembly to be used as a test cable.

• Upper connection: two alligator clips – red 5.5" 22AWG wire; black 9" 22AWG wire

• Lower connection: 23" RG/58U cable w/ BNC connector

| Part No. | Description | 1 | 10 |
|---|---|---|---|
| 11383ER | BNC cable | $3.49 | $2.49 |

## Modular Oscilloscope Probes

22891ER

• 60MHz & 100MHz
• Hook and pointed probes
• **216047ER**: with IC test ground cover and spring ground contact
• Alligator clip ground wire
• Maximum input voltage: 600V
• BNC male connector • Length: 5'

| | Bandwidth (±3dB) | | Impedance (R/C)* | |
|---|---|---|---|---|
| | Attenuation | | Attenuation | |
| Part No. | x1 | x10 | x1 | x10 |
| 22891ER | 6MHz | 60MHz | 1MΩ/180pF | 10MΩ/22pF |
| 216047ER | 6MHz | 100MHz | 1MΩ/47pF | 10MΩ/16pF |

* with 20pF oscilloscope input

| Part No. | Mfr. Cross Ref. No. | 1 | 10 |
|---|---|---|---|
| 22891ER | LF101E | $24.95 | $22.46 |
| 216047ER | HF-9100 | 34.95 | 29.95 |

## Just Two PALs

***Hua-Thye Chua and John M. Birkner, Co-inventors of Programmable-Array Logic (PAL) technology***

Pop quiz: It's 1972, and you need a programmable logic chip. What were your choices?

If you had half a year and $40,000 to spare, you were all set! Seriously, until 1977 when Birkner and Chua created "design your own chip" technologies, customers were stuck with huge R&D commitments and months of tedious development if they needed to "break the mold." With the advent of PAL, however, a whole new world of user-programmable devices was born.

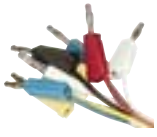
The Birkner PAL hardware basically contained 2048 tiny fuses, each of which could be "blown" to create almost any configuration of up to 250 logic gates. As important as the advance in chip design was, it would have been useless without Chua's contributions to the PALASM design software, which was essentially the first set of EDA tools for programmable logic. Together, these two components and their inventors helped create a revolution in electronics.

## Mini-Clip BNC to Clip Test Cable

BNC connectors are designed for signal frequencies into the gigahertz range, making them ideal for communications, video & test equipment.

| Part No. | Description | Length | 1 | 10 |
|---|---|---|---|---|
| 11463ER | Mini-clip RG174 | 39" | $4.39 | $3.99 |

## Banana to Banana Test Leads



• Stackable
• 9.8" long
• 18 AWG wire
• Color coded; 2 each red, yellow, blue, black, white
• 10 per package

| Part No. | Description | 1 | 10 |
|---|---|---|---|
| 77841ER | Test leads | $22.95 | $20.69 |

## Mini-Clip Test Leads

These spring loaded mini-clips hook easily to IC pins for testing.

• Set of five: red, blue, green, black and yellow
• 14"L clips on both ends
• 26 AWG to 300V CSA/UL approved wire

| Part No. | Description | 1 | 10 |
|---|---|---|---|
| 135298ER | Mini test leads | $11.49 | $10.39 |

## Alligator and Claw Clips

248920ER 256524ER 248997ER

Jameco offers different types of clips for different applications. Claw clips with teeth on three sides of the jaw for better grip and screw terminal connections. Steel alligator clips with either solder / crimp connection or barrel / screw connection.

**248920ER:** 1.2"L x 0.3"W **248997ER:** 2.8"L x 0.6"W
**256524ER:** 1.9"L x 0.2"W **248938ER:** 1.6"L x 0.3"W
**248989ER:** 2.1"L x 0.4"W **249009ER:** 2.5"L x 0.5"W

• **Prepackaged: order in increments of 2**

| Part No. | Description | 2 | 4 | 10 |
|---|---|---|---|---|
| 248920ER | Mini-alligator clip solder/crimp | $.28 | $.25 | $.23 |
| 248954ER | Red insulator for P/N 248920ER | .18 | .16 | .14 |
| 248946ER | Black insulator for P/N 248920ER | .18 | .16 | .14 |
| 256524ER | Alligator clip barrel/screw | .45 | .38 | .35 |
| 248938ER | Alligator clip solder/crimp | .52 | .48 | .42 |
| 248971ER | Red insulator for P/N 248938ER/256524ER | .21 | .19 | .17 |
| 248962ER | Black insulator for P/N 248938ER/256524ER | .21 | .19 | .17 |
| 248989ER | Claw clip 10A, screw terminal | .45 | .44 | .40 |
| 249009ER | Claw clip 20A, screw terminal | .55 | .50 | .45 |
| 248997ER | Claw clip 30A, screw terminal | .69 | .62 | .55 |

## Alligator Clip Leads

Holiday Gift Idea

• 24 AWG wire
• Color-coded, 15" long
• Insulated alligator clip on each end
• 10 per pkg. in assorted colors

| Part No. | Description | 1 | 10 |
|---|---|---|---|
| 10444ER | Alligator leads | $4.39 | $3.95 |

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The Lowest Prices
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Immediate Availability
Same day shipping on orders placed before 6pm EST.

COLOR CODE LEGEND... NEW SALE REFURBISHED CLOSEOUT

## Programming & Customizing PICmicro Microcontrollers

***Second Edition***

***McGraw-Hill*** Details the features of the PICmicro® and how to use these embedded chips to access and control many different devices. Shows what happens within the PICmicro® when an instruction is executed and how it interfaces with external devices. (1190 pages, 2001)

**Includes:** CD-ROM and PIC PCB

| Part No. | Description | Price |
|---|---|---|
| 183046ER | PICmicro Programming | $49.95 |

## PIC Microcontroller Project Book

***Comprehensive Beginner's Guide***

***McGraw-Hill*** Provides you with hands-on directions for putting Microchip's RISC-based chips with up to 8k of memory to work. Starting with simple projects and experiments, this book leads you gradually into sophisticated programming techniques. Provides you guidance on getting the equipment you need and programming your chip. (203 pages, 2000)

| Part No. | Description | Price |
|---|---|---|
| 174650ER | PIC Beginner's Guide | $29.95 |

## PIC BASIC Programming and Projects

***Newnes Publications*** The BASIC language, as used by the most popular PIC compilers, is introduced from square one, with simple code used to illustrate each of the most commonly used instructions. PIC BASIC is the simplest and quickest way to get up and running – designing and building circuits using a microcontroller. (210 pages, 2001) • Size: 6.1" x 9.2" • Weight: 0.8 lbs.

| Part No. | Description | Price |
|---|---|---|
| 200168ER | PIC BASIC Programming | $34.95 |

## Serial Communications

***Serial Communications PIC Applications***

***Square 1 Publishing*** Topics such as asynchronous serial communications, RS242 standard, ASCII character code, bit-bang asynchronous communications, and synchronous serial communications to name a few are covered in this book as well as tool box modules and applications. (566 pages, 2002)
• Size: 8.6" x 11.0" • Weight: 3.5 lbs.

| Part No. | Description | Price |
|---|---|---|
| 210497ER | Serial Communications | $49.95 |

## TTL Logic Data Book

***Texas Instruments*** Contains specifications and technical information on a broad line of TTL integrated circuits including Schottky TTL circuits. (1240 pages, 1988)

| Part No. | Description | Price |
|---|---|---|
| 88225ER | TTL Logic Data Book | $34.95 |

## Electric Motors and Control Techniques

***TAB Publishing***

Explains how different types of motors operate, and how electronic control devices can be used to improve efficiency in a wide range of applications. (294 pages, 1994)

| Part No. | Description | Price |
|---|---|---|
| 137162ER | Electric Motors & Control | $24.95 |

## Robot Builder's Bonanza

***TAB Publishing***

This fascinating guide offers you a complete, unique collection of tested and proven project modules that you can mix and match to create an almost endless variety of highly intelligent and workable robot creatures. (753 pages, 2001)

SALE

| Part No. | Description | Price |
|---|---|---|
| 137171ER | Robot Builder's Bonanza | ~~$23.95~~ $17.95 |

## Robot Builder's Source Book

***McGraw-Hill***

Everything you need to find and acquire common and uncommon robotic parts and supplies. Jameco and over 2500 mail order suppliers and other sources, including local and international businesses all cross-referenced and categorized to make your search quick and easy. (711 pages, 2003)
• Size: 8.5" x 10.0" • Weight: 3.9 lbs.

SALE

| Part No. | Description | Price |
|---|---|---|
| 213461ER | Robot Builder's Source Book | ~~$19.95~~ $16.95 |

## Electric Motors and Serial Port Complete

***Lakeview Research***

RS-232 and RS-485 are the most versatile, inexpensive interfaces for linking, but the hardware and programming are often misunderstood. This book provides you with everything you need to design, program, install and troubleshoot the links you set up. (306 pages, 1998)

**Includes:** 3.5" diskette

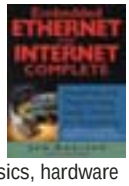
| Part No. | Description | Price |
|---|---|---|
| 154771ER | Serial Port Complete | $39.95 |

## Making Your Own Printed Circuit Board Book

***JV Enterprises*** No darkroom or special equipment needed. Shows steps for drilling and shaping your printed circuit board and the materials you will need. (91 pages, 2004)
• Size: 8.5" x 11"
• Weight: 0.5 lbs.

| Part No. | Description | Price |
|---|---|---|
| 141524ER | Making PCBs Book | $19.95 |

## Complete Embedded Ethernet and Internet Book



***Lakeview Research*** A guide to designing and programming embedded systems to communicate in local Ethernet networks and on the Internet. This book is organized for anyone who wants to design, program, or learn about networking with embedded systems. Topics include networking basics, hardware options in building a network, using internet protocol in local and internet communications, serving web pages, etc. (482 pages, 2003)

| Part No. | Description | Price |
|---|---|---|
| 236945ER | IC Design Projects Book | $44.95 |

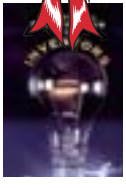
## Everything You Need To Develop Custom USB Peripherals Book

***Lakeview*** (2nd Edition) This USB Complete book provides an easy-to-use interface for computer peripherals. The book covers topics such as what USB can do, transfer types, chip choices, what's inside a USB controller, writing firmware, how the host communicates and more. (523 pages, 1999)

| Part No. | Description | Price |
|---|---|---|
| 171900ER | Complete USB Book | $49.95 |

## Practical Electronics Book for Inventors

Holiday Gift Idea



***McGraw-Hill*** Provides information needed for practical use in a format you can understand. With hand-drawn illustrations, this learn-as-you-go guide shows you what a particular device does, looks like and compares with other similar devices. Provides an easy-to-understand overview of basic components, resistors, diodes, capacitors, inductors, rectifiers, amplifiers, voltage regulators, discrete passive and active devices and so on. (604 pages, 2000)

| Part No. | Description | Price |
|---|---|---|
| 174529ER | Practical Electronics | $39.95 |

## How to Test Almost Everything Electronic

***TAB Publishing*** Filled with easy-to-follow instructions on how to troubleshoot all types of electronic systems. Learn the many uses of electronic tools, test equipment and troubleshooting techniques using flowcharts. (326 pages, 1993)
• Size: 7.4" x 9.3" • Weight: 1.3 lbs.

| Part No. | Description | Price |
|---|---|---|
| 126199ER | How to Test Everything | $17.95 |

## Electronic Pocket Reference

***Third Edition***

***McGraw-Hill Publishing*** A pocket reference manual that provides definitions, passive component equations and color coding, parameters of standard semi-conductors, linear circuits, filters, power supply and regulation, electronic measurement and mathematical tables and formulas. (529 pages, 2000)

| Part No. | Description | Price |
|---|---|---|
| 174481ER | Electronics Pocket Ref. | $29.95 |

## USB 2.0 Cables

SALE

USB-A (M) to USB-A (M)

USB-A (M) to USB-B (M)

USB-A (M) to USB-A (F)

- Higher transfer rate up to 480Mbps

### USB-A Male to USB-A Male

| Part No. | Description | 1 | 10 | 25 |
|---|---|---|---|---|
| 229681ER | 6' cable beige | $1.65 | $1.49 | $1.39 |
| 222033ER | 6' cable black ~~$6.49~~ | 1.65 | 1.49 | 1.39 |
| 229551ER | 6' cable clear ~~$6.49~~ | 1.65 | 1.49 | 1.39 |
| 229690ER | 10' cable beige | 1.89 | 1.75 | 1.65 |
| 222041ER | 10' cable black ~~$7.99~~ | 1.89 | 1.75 | 1.65 |
| 229569ER | 10' cable clear ~~$7.99~~ | 1.89 | 1.75 | 1.65 |

### USB-A Male to USB-B Male

| Part No. | Description | 1 | 10 | 25 |
|---|---|---|---|---|
| 229711ER | 3' cable beige | $1.55 | $1.39 | $1.29 |
| 222607ER | 3' cable black ~~$5.99~~ | 1.55 | 1.39 | 1.29 |
| 229585ER | 3' cable clear ~~$5.99~~ | 1.55 | 1.39 | 1.29 |
| 229729ER | 6' cable beige | 1.65 | 1.49 | 1.39 |
| 222009ER | 6' cable black ~~$6.49~~ | 1.65 | 1.49 | 1.39 |
| 229593ER | 6' cable clear ~~$6.49~~ | 1.65 | 1.49 | 1.39 |

### USB-A Male to USB-A Female

| Part No. | Description | 1 | 10 | 25 |
|---|---|---|---|---|
| 229770ER | 6' cable beige | $1.65 | $1.49 | $1.39 |
| 222068ER | 6' cable black ~~$7.99~~ | 1.65 | 1.49 | 1.39 |
| 229622ER | 6' cable clear ~~$7.99~~ | 1.65 | 1.49 | 1.39 |
| 229788ER | 10' cable beige | 1.89 | 1.75 | 1.65 |
| 222076ER | 10' cable black ~~$9.99~~ | 1.89 | 1.75 | 1.65 |
| 229631ER | 10' cable clear ~~$9.99~~ | 1.89 | 1.75 | 1.65 |

## USB to Serial Adapter with Prolific Chipset

This USB serial adapter provides an external Plug-and-Play RS-232 port for computers, notebooks, and handheld computing devices. Provides high-quality serial connections at transfer rates of more than 500kbps for cell phones, PDAs, digital cameras, modems and ISDN terminal adapters.

- Supports RS-232 serial interface, automatic handshake mode, remote wake-up and power management
- Provides a 96-byte buffer for each upstream and downstream data transfer
- Has a 7" cable with DB25 male connector and a 14" cable with USB-A connector

**System requirements:** Windows®98/2000, USB host controlled installed in the system

| Part No. | Description | 1 | 5 |
|---|---|---|---|
| 213006ER | USB-A to serial converter | $29.95 | $27.95 |

## External 7-Port USB Hub

- 7 USB-A female output ports
- USB-B female root port
- Allows you to attach 127 USB devices to your PC
- LED indicators for port, status, and power
- Plug & Play compatible • Size: 7.9"L x 2.8"W x 1.1"H

**Includes:** 6VDC power adapter and USB-A male to USB-B female cable

| Part No. | Description | Wt. (lbs.) | Price |
|---|---|---|---|
| 191450ER | 7-Port USB hub | 2.6 | $34.19 |

## USB-A Female Cables & Bracket

- Supports data transfer rates of 12Mbps
- Connection of two devices
- Dual USB-A female connectors • 8" long

| Part No. | Description | 1 | 10 |
|---|---|---|---|
| 144813ER | USB-A panel mount | $6.95 | $6.25 |

## USB Gender Adapter

### USB-A to USB-B

- USB-A (female) to USB-B (male)

| Part No. | Dimensions | 1 | 10 |
|---|---|---|---|
| 169375ER | 1.7"L x 0.6"W | $6.95 | $6.35 |

## USB Cables

### USB-A Male to USB-B Male

175417ER

| Part No. | Description | 1 | 10 |
|---|---|---|---|
| 175417ER | 3' cable | $1.29 | $1.15 |
| 169359ER | 6' cable | 4.99 | 4.49 |

Visit us at www.Jameco.com to find more quality components for less.

# Network/Communication Coaxial Cables and Connectors

## SMA Connectors, Adapters and Couplers

157972ER, 153365ER, 145381ER, 153285ER, 160021ER, 160012ER, 188509ER, 188525ER, 159476ER, 153293ER

- Cellular phone, data communication, instrumentation and video • 50Ω impedance
- Gold plating (**153285ER:** nickel plating) • Temperature range: -65˚C to 165˚C
- Frequency range: 0-18GHz

### Connectors

| Part No. | Description | 1 | 10 |
|---|---|---|---|
| 157972ER | SMA 50Ω crimp type **M** plug connector (RG-58) | $3.99 | $3.59 |
| 153365ER | SMA 50Ω crimp type **M** plug connector (RG-174) | 4.39 | 3.95 |
| 145381ER | SMA straight **F** PCB mount connector, 4 legs | 5.25 | 4.75 |
| 153285ER | SMA bulkhead solder **F** w/ washer, rear mount (RG-58/174) | 3.49 | 3.15 |
| 160021ER | SMA **F** panel mount connector, 2 mounting holes* | 3.99 | 3.59 |
| 160012ER | Panel mount feed thru connector **F** – **F** | 4.99 | 4.49 |
| 188509ER | SMA PCB straight jack | 3.69 | 3.35 |
| 188525ER | SMA PCB right angle jack | 5.95 | 4.95 |

***160021ER:** Solder cup

Expanded Selection

### SMA to BNC Adapter

| Part No. | Description | Plated | 1 | 10 |
|---|---|---|---|---|
| 159476ER | SMA **M** to BNC **F** adapter — NEW | Nickel | $2.99 | $2.69 |

### Coupler

| Part No. | Description | Plated | 1 | 10 |
|---|---|---|---|---|
| 153293ER | SMA straight coupler **F** – jack-to jack — NEW | Gold | $3.85 | $3.39 |

## BNC/RCA Adapters

114788ER, 114770ER, 114753ER, 118594ER

| Part No. | Description | 1 | 10 |
|---|---|---|---|
| 118594ER | BNC **M** to **F**/**F** T-adapter | $2.39 | $2.15 |
| 114788ER | RCA **F** to BNC **M** adapter | 1.35 | 1.05 |
| 114753ER | RCA **M** to BNC **F** adapter | 1.59 | 1.45 |
| 114770ER | BNC **F** to "F" conn. **M** adapter | 1.79 | 1.59 |

## BNC Coax Connectors

BNC connectors are miniature, lightweight units designed to operate up to 11GHz and typically yield low reflection up to 4GHz.

Fig. 1, Fig. 2, Fig. 3, Fig. 4

| Part No. | Fig. | Description | 1 | 10 |
|---|---|---|---|---|
| 71482ER | 1 | BNC **M** w/ pin & ferrule (RG58) | $1.65 | $1.49 |
| 112109ER | 1 | BNC **M** w/ pin & ferrule (RG174) | 1.59 | 1.45 |
| 135618ER | 2 | BNC **M** w/ pin & ferrule (RG6) | .89 | .69 |
| 71271ER | 2 | BNC **M** w/ pin & ferrule (RG59/62) | .81 | .66 |
| 71589ER | 2 | BNC **F** panel mount (UG-1094A) | 1.49 | 1.35 |
| 111561ER | 3 | BNC **F** isolated bulkhead | 2.29 | 1.99 |
| 174254ER | 4 | BNC **M** to **F** connector **F** | 1.99 | 1.59 |

## SMA 50Ω Coax Cables

**Fig. 1:** SMA male to SMA male
**Fig. 2:** SMA male to SMA right angle male

Fig. 1, Fig. 2

| Part No. | Cable | Fig. | Length (ft.) | 1 | 10 |
|---|---|---|---|---|---|
| 159370ER | RG58 | 1 | 2 | $4.49 | $3.99 |
| 159396ER | RG58 | 1 | 6 | 5.49 | 4.89 |
| 163854ER | RG174 | 1 | 1 | 4.49 | 3.95 |
| 153381ER | RG174 | 1 | 2 | 4.95 | 4.29 |
| 153390ER | RG174 | 1 | 4 | 5.49 | 4.75 |
| 159450ER | RG174 | 1 | 4 | 6.79 | 6.15 |
| 175126ER | RG174 | 2 | 0.5 | 4.49 | 3.95 |
| 175134ER | RG174 | 2 | 1 | 4.95 | 4.25 |

COLOR CODE LEGEND... NEW SALE REFURBISHED CLOSEOUT

## What is the difference between enhanced category 5e cable rated for 350 MHz and category 6 cable rated for 200 MHz?

Category 5e cable is specified up to 350 MHz. Cables can be tested up to any frequency that is supported by the test equipment, but such measurements are meaningless without the context of applications and cabling standards.

The category 6 standard sets minimum requirements up to 200 MHz for cables, connecting hardware, patch cords, channels and permanent links, and therefore guarantees reasonable performance that can be utilized by applications.

## New Cat 6 technology improves performance effortlessly.

The difference between category 5e and category 6 is in the transmission performance, and extension of the available bandwidth from 100 MHz for category 5e to 200 MHz for category 6. This includes better insertion loss, near end crosstalk (NEXT), return loss, and equal level far end crosstalk (ELFEXT). These improvements provide a higher signal-to-noise ratio, allowing higher reliability for current applications and higher data rates for future applications. Category 6 cables are 100% backward compatible with Cat 5 and Cat 5e systems.

Although category 6 and category 5e connectors may look alike, category 6 connectors have much better transmission performance. This means that a category 6 connector couples about 1/12 of the power that a category 5e connector couples from one pair to another pair. Conversely, one can say that a category 6 connector is 12 times less "noisy" compared to a category 5e connector.

| Part No. | Description | 1 | 10 |
|---|---|---|---|
| 219758ER | Cable black 3' ..... Was ~~$6.29~~ | $2.79 | $2.69 |
| 219766ER | Cable black 7' ..... Was ~~$7.99~~ | 3.99 | 3.87 |
| 219774ER | Cable black 14' ... Was ~~$8.99~~ | 6.59 | 6.37 |
| 219782ER | Cable black 25' ... Was ~~$13.49~~ | 9.39 | 8.92 |
| 219791ER | Cable black 50' ... Was ~~$22.49~~ | 14.29 | 13.58 |
| 219854ER | Cable blue 3' ..... Was ~~$6.29~~ | 2.79 | 2.69 |
| 219862ER | Cable blue 7' ..... Was ~~$7.99~~ | 3.99 | 3.87 |
| 219871ER | Cable blue 14' ..... Was ~~$8.99~~ | 6.59 | 6.37 |
| 219889ER | Cable blue 25' ..... Was ~~$13.49~~ | 9.39 | 8.92 |
| 219897ER | Cable blue 50' ..... Was ~~$22.49~~ | 14.29 | 13.58 |
| 219707ER | Cable gray 3' ..... Was ~~$6.29~~ | 2.79 | 2.69 |
| 219715ER | Cable gray 7' ..... Was ~~$7.99~~ | 3.99 | 3.87 |
| 219723ER | Cable gray 14' .... Was ~~$8.99~~ | 6.59 | 6.37 |
| 219731ER | Cable gray 25' .... Was ~~$13.49~~ | 9.39 | 8.92 |
| 219740ER | Cable gray 50' ..... Was ~~$22.49~~ | 14.29 | 13.58 |
| 219803ER | Cable green 3' ..... Was ~~$6.29~~ | 2.79 | 2.69 |
| 219811ER | Cable green 7' ..... Was ~~$7.99~~ | 3.99 | 3.87 |
| 219820ER | Cable green 14' ... Was ~~$8.99~~ | 6.59 | 6.37 |

| Part No. | Description | 1 | 10 |
|---|---|---|---|
| 219838ER | Cable green 25' .... Was ~~$13.49~~ | $9.39 | $8.92 |
| 219846ER | Cable green 50' .... Was ~~$22.49~~ | 14.29 | 13.58 |
| 219900ER | Cable red 3' ..... Was ~~$6.29~~ | 2.79 | 2.69 |
| 219918ER | Cable red 7' ..... Was ~~$7.99~~ | 3.99 | 3.87 |
| 219926ER | Cable red 14' ..... Was ~~$8.99~~ | 6.59 | 6.37 |
| 219934ER | Cable red 25' ..... Was ~~$13.49~~ | 9.39 | 8.92 |
| 219942ER | Cable red 50' ..... Was ~~$22.49~~ | 14.29 | 13.58 |
| 220003ER | Cable white 3' ..... Was ~~$6.29~~ | 2.79 | 2.69 |
| 220011ER | Cable white 7' ..... Was ~~$7.99~~ | 3.99 | 3.87 |
| 220020ER | Cable white 14' .... Was ~~$8.99~~ | 6.59 | 6.37 |
| 220038ER | Cable white 25' .... Was ~~$13.49~~ | 9.39 | 8.92 |
| 220046ER | Cable white 50' .... Was ~~$22.49~~ | 14.29 | 13.58 |
| 219951ER | Cable yellow 3' ..... Was ~~$6.29~~ | 2.79 | 2.69 |
| 219969ER | Cable yellow 7' ..... Was ~~$7.99~~ | 3.99 | 3.87 |
| 219977ER | Cable yellow 14' ... Was ~~$8.99~~ | 6.59 | 6.37 |
| 219985ER | Cable yellow 25' ... Was ~~$13.49~~ | 9.39 | 8.92 |
| 219993ER | Cable yellow 50' ... Was ~~$22.49~~ | 14.29 | 13.58 |

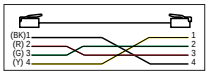
## Modular Telephone/Printer Sharing Cables (Gray)

Low Cost Data/ Phone Cables

- RJ11 – 6P2C/6P4C for telephone or network
- RJ11 – 6P6C for telephone or printer sharing
- RJ45 – 8P8C for telephone or modem-dial-up use

**Style 1** – Reverse wiring for telephone systems
**Style 2** – Straight wiring for networking/ printer sharing

Style 1




Style 2

| Part No. | Conn. Style | Type | Length | Pricing 1 | Pricing 10 |
|---|---|---|---|---|---|
| 189940ER | 1 | RJ11-6P2C | 7ft. | $.99 | $.84 |
| 196226ER | 1 | RJ11-6P4C | 7ft. | 1.49 | 1.15 |
| 115553ER | 2 | RJ11-6P4C | 7ft. | 1.25 | 1.09 |
| 115545ER | 1 | RJ11-6P4C | 25ft. | 2.29 | 2.09 |

| Part No. | Conn. Style | Type | Length | Pricing 1 | Pricing 10 |
|---|---|---|---|---|---|
| 115588ER | 1 | RJ11-6P6C | 7ft. | $1.55 | $1.35 |
| 115617ER | 2 | RJ11-6P6C | 7ft. | 2.19 | 1.99 |
| 115676ER | 2 | RJ45-8P8C | 7ft. | 1.89 | 1.75 |

## Modular Plugs

79290ER 79273ER 79281ER 119343ER

P = No. of positions C = No. of contacts
W/E = Western Electric type number

✳ **Prepackaged: order in increments of 10, 100 or 1000**

| Part No. | Description | W/E | 1 | 10 | 100 |
|---|---|---|---|---|---|
| 79290ER | 6P4C (RJ11) | 623 | ✳ | $.12 | $.11 |
| 79273ER | 6P6C (RJ11) | 623 | ✳ | .22 | .195 |
| 79281ER | 8P8C (RJ45) (for stranded wire) | 641 | .35 | .28 | .24 |
| 119343ER | 8P8C (RJ45) unshielded (for solid wire) | — | .49 | .44 | .35 |

## Modular Jacks

151765ER 105945ER 115836ER 204177ER 124038ER 115844ER

- PC mount
- Durability: 750 mating cycles
- Voltage rating: 150 volts AC max.
- Contact current rating: 1.5 amp max. @ 25˚C

| Part No. | Description | W/E | 1 | 10 |
|---|---|---|---|---|
| 151765ER | 6P4C (RJ11) side flange | AMP | $.45 | $.43 |
| 105945ER | 6P4C (RJ11) top flange | 623 | .62 | .49 |
| 115836ER | 6P6C (RJ11) side flange | — | .74 | .67 |
| 204177ER | 6P6C (RJ11) dual | — | 1.49 | 1.35 |
| 124038ER | 6P6C (RJ11) 6" leads | — | 1.25 | 1.15 |
| 115844ER | 8P8C (RJ45) | 641 | .48 | .44 |

## Modular Jacks

### *Punchdown Keystone Type*

212943ER 213516ER

- Removable jacks used in wall plates (clip in)
- CAT 5e classification
- Punchdown type wiring connections with color coding
- Size: 0.57"W x 0.63"H x 1.23"D

**RJ45:** 8P8C **RJ11:** 6P6C

### *RJ45*

| Part No. | Color | 1 | 10 |
|---|---|---|---|
| 195590ER | Red | $3.75 | $3.55 |
| 195602ER | Yellow | 3.75 | 3.55 |
| 195611ER | Green | 3.75 | 3.19 |
| 195629ER | Black | 3.75 | 3.55 |
| 195637ER | Ivory | 3.75 | 3.19 |
| 212951ER | Blue | 3.75 | 3.55 |
| 212943ER | White | 3.75 | 3.55 |

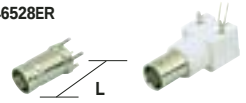
### *RJ11*

| Part No. | Color | 1 | 10 |
|---|---|---|---|
| 213524ER | Black | $3.75 | $3.55 |
| 213516ER | White | 3.75 | 3.55 |

*Your #1 Source of Electronic Components for Inventors, Hobbyists and DIYers.*

## BNC PCB Connectors

- **146528ER:**
  Ideal for applications where multiple insertions require a connector which can endure the stress of high torque
- **146510ER/161656ER:**
  Maintains matching impedance at 50Ω & 75Ω. Ideal for LAN cards & precision video



161656ER

| Part No. | Description | Length (L) | 1 | 10 |
|---|---|---|---|---|
| 146528ER | BNC straight metal | .719" | $2.79 | $2.55 |
| 146510ER | BNC right-angle plastic insulation | 1.37" | 1.95 | 1.75 |
| 161656ER | BNC right-angle metal | .861" | 2.29 | 1.99 |

## Cat 5e Crossover Cable

- 4-pair • 8P8C • UTP • Connect 2 PCs without a hub
- 24AWG (7 x 43) stranded • Strain relief RJ45 connectors

| Part No. | Description | 1 | 10 |
|---|---|---|---|
| 169261ER | 10' cable RJ45, gray | $6.95 | $6.25 |

## RJ45 Keystone Wall Plates

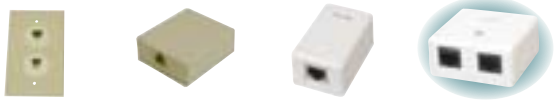
SALE

- Color: ivory • Size: 2.8"W x 4.5"H

| Part No. | No. of ports | 1 | 10 |
|---|---|---|---|
| 195549ER | 1 | $1.25 | $1.15 |
| 195557ER | 2 | 1.25 | 1.15 |
| 195565ER | 3 | 1.25 | 1.05 |
| 195573ER | 4 | 1.25 | 1.05 |

## Modular Jack Boxes and Wall Plate

Add phone lines and network connections with our modular jack boxes and wall plate. Screw down terminals and color coded wires for easy installation and troubleshooting.




| Part No. | Description | Fig. | Dimensions (W x H x D) | 1 | 10 |
|---|---|---|---|---|---|
| 72311ER | 6P6C & 8P8C double wall jack plate w/ jacks (beige) | 1 | 2.8" x 4.5" | $1.95 | $1.75 |
| 103464ER | 6P4C adhesive jack RJ11 (beige) | 2 | 2.0" x 2.2" x 0.9" | 1.39 | 1.19 |
| 71984ER | 6P6C adhesive jack RJ11 (beige) | 2 | 2.0" x 2.2" x 0.9" | 1.39 | 1.19 |
| 71651ER | 8P8C adhesive jack RJ45 (beige) | 2 | 2.0" x 2.2" x 0.9" | 1.95 | 1.65 |
| 213031ER | 8P8C adhesive jack RJ45(single, white) (CAT 5e) | 3 | 1.5" x 2.4" x 1.1" | 3.29 | 2.99 |
| 213049ER | 8P8C adhesive jack RJ45(dual, white) (CAT 5e) | 4 | 2.4" x 2.4" x 1.1" | 4.15 | 3.75 |

## RS-232-to-RJ11/RJ45 Modular Jack Adapters

Change your RS-232 port to a RJ11 or RJ45 modular jack. This will allow you to use modular phone cable rather than RS-232 cable, thus simplifying networking applications. Comes complete with wiring and hardware.

| Part No. | Mfr. Cross Ref. | Description | 1 | 10 |
|---|---|---|---|---|
| 66181ER | G9P6 | DB9 M-RJ11(6P6C) | $2.59 | $2.35 |
| 66190ER | G9P8 | DB9 M-RJ45(8P8C .... | 2.89 | 2.65 |
| 114737ER | G9S4 | DB9 F-RJ11(6P4C) .... | 1.95 | 1.79 |
| 66202ER | G9S6 — NEW | DB9 F-RJ11(6P6C) .... | 2.79 | 2.55 |
| 66211ER | G9S8 | DB9 F-RJ45(8P8C) .... | 2.99 | 2.69 |
| 66229ER | G25P6 | DB25 M-RJ11(6P6C) | 2.95 | 2.35 |
| 66237ER | G25P8 | DB25 M-RJ45(8P8C) | 2.99 | 2.69 |
| 204273ER | TMA-105 | DB25 F-RJ11(6P4C) .. | 1.95 | 1.75 |
| 66245ER | G25S6 | DB25 F-RJ11(6P6C) .. | 2.59 | 1.95 |
| 66253ER | G25S8 | DB25 F-RJ45(8P8C) .. | 2.89 | 2.59 |

## Modular Cable Tester with Remote Terminator

Easily read correct pin configuration of 10baseT, 10base2, RJ45/RJ11 modular cables, 258A, TIA568A/568B, token ring, etc. Test installed cables either on wall plate or patch panel from a distance.

- Check for cable continuity, miswiring, open, short, grounding and pin configurations
- Cable adapters: RJ45 M-M, 2 RJ45M-BNCM & BNC F-F
- On-board connectors: 2 RJ45F (tester) and 1 RJ45F (remote)
- Size: 4.0"L x 2.5"W x 1.0"H (Main console)
- Size: 4.0"L x 1.3"W x 1.0"H (Remote) • Wt.: 0.7 lbs.

**Includes:** Manual and test cables

| Part No. | Description | Price |
|---|---|---|
| 145710ER | Modular cable tester | $84.95 |

**More Networking Products**
**@ www.Jameco.com**

## Share printers, files, and DSL inexpensively through the phone wiring already in your home!

SALE

Holiday Gift Idea

*Don't waste money on separate printers, modems and Internet connections. Install the AnyPoint Home Network, and let everyone share at speeds of up to 1Mbps.*

Multiple PC users in your house? Turn your home phone wiring into an instant network for sharing printers, files, modems, applications, DSL lines, Internet access, and for playing interactive games. This inexpensive solution lets computers up to 500 feet apart communicate over existing phone wiring. There's no drilling or cable snaking from room-to-room. And you don't lose a single phone jack or printer port. Installation is easy. The manual is excellent, and you get 90 days support free. Package includes hardware and software for networking 2 PCs: 2 adapters (Intel 21145 phone line/Ethernet LAN controller), 2 parallel cables, 2 phone cables, 1 CD-ROM. Purchase an additional package for each 1-2 PCs. Requires 486 PCs or higher, Windows® 95/98, 8 MB RAM, 18 MB hard disk space, parallel port for printer use. At least one PC must have CD-ROM drive, modem, and Internet access.

| Part No. | Description | Price |
|---|---|---|
| 220417ER | Any Point™ home network | ~~$29.95~~ $9.95 |

## BNC Coax Cables

### RG58/U 50Ω Cables

- For Ethernet networks, oscilloscopes

| Part Number | Mfr. Cross Ref. No. | Lgth (ft.) | 1 | 10 |
|---|---|---|---|---|
| 102314ER | CRG58-1 | 1.5 | $3.99 | $3.49 |
| 11404ER | CRG58-3 | 3 | 4.29 | 3.89 |
| 102331ER | CRG58-6 | 6 | 4.39 | 3.99 |
| 180822ER | CRG58-10 | 10 | 4.49 | 3.99 |
| 169818ER | CRG58-15 | 15 | 4.95 | 4.46 |
| 102365ER | CRG58-50 | 50 | 9.49 | 8.54 |

### RG174/U 50Ω Cables

- For Ethernet networks, oscilloscopes

| Part Number | Mfr Cross Ref. No. | Lgth (ft.) | 1 | 10 |
|---|---|---|---|---|
| 111472ER | RG174U3 | 3 | $3.85 | $3.49 |
| 111481ER | RG174U6 | 6 | 4.59 | 4.15 |

COLOR CODE LEGEND... NEW SALE REFURBISHED CLOSEOUT

## DB9 Extension Cables

132345ER

25700ER

- All lines connected straight through

**132345ER/196365ER:**
- DB9 female to DB9 female cable with thumbscrews

**25700ER/148515ER/199638ER:**
- DB9 male to DB9 female cable with thumbscrews

**181665ER:** • DB9 male to DB9 male cable

| Part No. | Description | 1 | 10 |
|---|---|---|---|
| 132345ER | 6' F-F | $4.95 | $4.49 |
| 199638ER | 6' M-F (black) | 4.49 | 3.95 |
| 25700ER | 6' M-F | 4.95 | 4.49 |
| 196365ER | 10' F-F | 6.95 | 6.25 |
| 148515ER | 10' M-F | 7.49 | 6.79 |
| 181665ER | 10' M-M | 6.95 | 6.25 |

## DB25 Extension Cables

- All lines connected straight through
- Use to lengthen your standard serial cable or for switch box applications
- Thumbscrews to secure connectors
- Color: gray; except P/Ns **174001ER/175290ER:** black*

67256ER

| Part No. | Desc. | Weight (lbs.) | 1 | 10 |
|---|---|---|---|---|
| 281551ER | 3' M-M | 0.4 | $4.45 | $4.25 |
| 174001ER | 3' M-M* | 0.6 | 4.79 | 4.35 |
| 65787ER | 6' M-M | 0.5 | 6.49 | 5.89 |
| 39538ER | 10' M-M | 0.7 | 6.95 | 6.29 |
| 179979ER | 15' M-M | 1.2 | 6.95 | 6.29 |
| 67070ER | 25' M-M | 1.4 | 10.95 | 9.95 |
| 164291ER | 3' M-F | 0.4 | 4.29 | 3.89 |
| 175290ER | 3' M-F* | 0.4 | 2.95 | 2.69 |
| 163133ER | 5' M-F | 0.6 | 5.29 | 4.75 |
| 67256ER | 6' M-F | 0.6 | 6.45 | 5.79 |
| 39511ER | 10' M-F | 0.7 | 6.95 | 6.29 |
| 101995ER | 25' M-F | 1.4 | 11.95 | 10.79 |

## IEEE 488 Cables

73154ER

A variety of cable lengths are offered to ensure that the IEEE system requirements are met (20 meters maximum length with a maximum of 15 devices). These cables are standard IEEE 488 cables with stackable 24-pin GPIB connectors on both ends.

| Part No. | Description | Wt. (lbs.) | 1 | 10 |
|---|---|---|---|---|
| 73154ER | 1 meter | 0.8 | $36.49 | $32.79 |
| 115781ER | 2 meter | 1.2 | 37.95 | 34.19 |
| 115801ER | 4 meter | 2.0 | 38.95 | 36.19 |

## Serial Null Modem Cables

180697ER

180582ER

- Molded type connectors • Color: gray
- Weight: 0.4 lbs. • Length: 10'

**180697ER/181403ER Pin outs:**
1 & 6-4, 2-3, 3-2, 4-6 & 1, 5-5, 7-8, 8-7

**180582ER Pin outs:**
2-2; 3-3; 4-5 & 6; 5-7; 6 & 8-20; 7-8; (serial printer null modem)

| Part No. | Description | 1 | 10 |
|---|---|---|---|
| 181403ER | 6' DB9 F to DB9 F | $5.69 | $5.09 |
| 180697ER | DB9 F to DB9 F | 6.79 | 6.09 |
| 180582ER | DB25 M to DB9 F | 6.69 | 6.05 |

## DA15 Extension Cables

- Molded connectors
- Straight through
- Thumbscrews
- Color: gray (**237032ER**: black)

181286ER

| Part No. | Description | Length | 1 | 10 |
|---|---|---|---|---|
| 181286ER | DA15 M-M | 6' | $5.49 | $4.95 |
| 181358ER | DA15 M-F | 6' | 5.49 | 4.95 |
| 237032ER | DA15 M-F | 8' | 6.99 | 5.95 |

## AT-to-PS/2 and PS/2-to-AT Keyboard Adapter Cables

- Color: beige

**28003ER:**
- Connects AT-type keyboards to PS/2
- 5-pin female DIN to 6-pin male mini DIN

28003ER

**85500ER:**
- Connects PS/2 keyboard to AT
- 6-pin female mini DIN to 5-pin male DIN connectors

| Part No. | Length | Weight (lbs.) | 1 | 10 |
|---|---|---|---|---|
| 28003ER | 7.3" | 0.6 | $3.95 | $3.49 |
| 85500ER | 11.3" | 0.8 | 5.39 | 4.85 |

## PS/2 Keyboard Extension Cables

- Color: beige
- PS/2 computers
- 6-pin mini DIN female-to-male

28548ER

| Part No. | Description | 1 | 10 |
|---|---|---|---|
| 28548ER | PS/2 6' non-coiled | $4.35 | $3.89 |
| 111053ER | PS/2 10' non-coiled | 5.49 | 4.99 |

## Flexible Multilink RS-232 Tester & Breakout Box

Visually indicates the status of lines 2, 3, 4, 5, 6, 8, 20 and 22 on the DTE and DCE sides. Provides signal status at a glance. Complete cable "breakout" & reconfiguration. Connectors: DB25 male and DB25 female.

- Cable length: 4" • Size: 3.5"L x 3.3"W x 1.0"H

**Includes:** handy carrying case, 10 jumper wires and a device wiring chart

| Part No. | Description | 1 | 10 |
|---|---|---|---|
| 25945ER | Tester/breakout box | $22.95 | $19.95 |

## RS-232 Line Status Tester

Identifies simple interface problems which you can repair yourself. Targets the status of lines 2, 3, 4, 5, 6, 8, 11, 19 and 20. Connectors: male to female DB25.

| Part No. | Description | 1 | 10 |
|---|---|---|---|
| 14285ER | Check line tester | $8.95 | $8.09 |

## No More Tangled Cables on the Road!

233349ER

No matter how carefully you stow your laptop's cables, don't they always seem to end up in a tangled mess! And isn't that skinny RJ11 phone/modem wire the worst? Here's the answer. This RJ11 cable extends up to 8'. And when you pack up, give it a tug and it retracts into its lightweight, rugged case like a windowshade. It's completely tangleproof.

| Part No. | Description | Price |
|---|---|---|
| 233349ER | RJ11 retractable cable | $4.95 |

## Switch Box Adapter Cables

**114913ER:**
- 5' gray 5-pin DIN M-M coiled cable for P/N 114155ER switch box, pg 75

174772ER

**177261ER:**
- 2' gray 6-pin mini DIN M-M non-coiled cable for P/N 79177ER switch box, see website

**174772ER:** • 6' black 6-pin mini DIN M-M

**174908ER:** • 6' gray 6-pin mini DIN M-M

**112627ER:** • 10' gray 6-pin mini DIN M-M non-coiled cable for P/N 79177ER switch box, see website

| Part No. | Description | Length | 1 | 10 |
|---|---|---|---|---|
| 114913ER | 5-pin DIN | 5' (gray) | $4.95 | $4.49 |
| 177261ER | 6-pin mini DIN | 2' (gray) | 2.95 | 2.55 |
| 174772ER | 6-pin mini DIN | 6' (blk) | 4.95 | 4.25 |
| 174908ER | 6-pin mini DIN | 6' (gray) | 5.75 | 5.15 |
| 112627ER | 6-pin mini DIN | 10' (beige) | 7.95 | 7.25 |
| 205655ER | 6-pin mini DIN | 25' (beige) | 8.95 | 7.95 |

## Save Space! Slim-Line D-Sub Gender Changers

18497ER

119319ER

119301ER

These revolutionary slim-line gender changers are only 0.69" wide, eliminating the space problems caused by standard gender changers. When plugged into your existing cable, they add only 0.44" to the cable. All-metal cases.

- Captive locking screw (male)
- Captive locking nut (female)
- Grounding tangs (male)

| Part No. | Description | 1 | 10 |
|---|---|---|---|
| 18497ER | D-sub 9-pin male | $4.95 | $4.49 |
| 18489ER | D-sub 9-pin female | 4.95 | 4.49 |
| 119319ER | D-sub 15-pin female HD | 4.29 | 3.89 |
| 119301ER | D-sub 15-pin male HD | 4.95 | 4.49 |
| 18446ER | D-sub 25-pin male | 4.95 | 4.49 |
| 18420ER | D-sub 25-pin female | 4.95 | 4.49 |

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## Keyboard/Monitor-to-PC Switch Box

***HDDB15/5-Pin DIN Female***

- 2-way switch box
- For 2 PCs connected to 1 keyboard and 1 monitor – diodes maintain keyboard in powered state
- Size: 6.0"L x 4.0"W x 2.3"H
- Weight: 1.3 lbs.

| Part No. | Description | 1 | 10 |
|---|---|---|---|
| 114155ER | 2 computers | $14.95 | $13.49 |

## Serial Port-to-PC Switch Boxes

***DB9 Female***

79126ER

183417ER

- Connects 2 or 4 serial ports to a PC

**79126ER:**
**2-serial port switch box**
- Size: 6.0"L x 4.8"W x 2.5"H
- Weight: 1.2 lbs.

**183417ER:**
**4-serial port switch box**
- Size: 6.1"L x 4.0"W x 2.2"H
- Weight: 1.3 lbs.

| Part No. | Description | 1 | 10 |
|---|---|---|---|
| 79126ER | 2-serial port switch box | $9.95 | $8.95 |
| 183417ER | 4-serial port switch box | 19.95 | 17.95 |

## Parallel Printer-to-PC Switch Boxes

***DB25 Female***

20095ER

20124ER

NEW

289211ER

- Connects 2, 4 or 6 PCs to one printer

**20095ER:**
***2-PC switch box***
- Size: 6.0"L x 5.8"W x 2.3"H
- Weight: 1.3 lbs.

**20124ER:**
***4-PC switch box***
- Size: 6.0"L x 4.0"W x 2.4"H
- Weight: 1.5 lbs.

**289211ER:**
***6-PC switch box***
- Size: 7.6"L x 6.0"W x 2.5"H
- Weight: 2.0 lbs.

| Part No. | Description | 1 | 10 |
|---|---|---|---|
| 20095ER | 2 PC switch box | $8.95 | $7.95 |
| 20124ER | 4 PC switch box | 14.95 | 13.49 |
| 289211ER | 6 PC switch box | 23.15 | 20.85 |

***Over 99% of our products are in stock! Place your order by 6PM EST for same business day shipment.***
***1-800-455-6119 www.Jameco.com***

## One simple tool and you have two computers at your command.

This two port switch box can access TWO computers from one keyboard, mouse, and monitor. No interface card or software to configure. Operation is as simple as pushing a button on the front panel and entering hot-key commands.

- Supports Microsoft® IntelliMouse, Logitech Net Mouse, etc.
- Supports operating systems DOS, Win 3.x, Win95/98/98SE/2000/ME, WinNT, Netware, Unix, Linux
- High VGA resolution
- Keyboard and mouse pluggable at anytime
- Hot-key function allows easy computer access
- Audible sound for switching port confirmation
- Port and console connectors: female PS/2 keyboard and mouse, female HDDB15 for video
- Size: 4.3"L x 3.0"W x 1.2"H
- Recommend gender changer, P/N 119301ER, pg 74, when ordering 216063ER and 204062ER

| Part No. | Description | 1 | 10 |
|---|---|---|---|
| 216063ER | 2-Port K/V/M ~~$69.95~~ | $47.99 | $43.65 |
| 204062ER | PS/2 cable | 16.95 | 15.29 |

## RGB Video Cables

118068ER

- 75Ω coaxial cable; 6' or 10'
- Pin 1 red, pin 2 green, pin 3 blue, pin 14 white/black vertical, pin 13 gray horizontal
- 5 BNCs to HDDB15-pin male

| Part No. | Description | 1 | 10 |
|---|---|---|---|
| 73648ER | 6' cable (black) | $19.95 | $16.99 |
| 118068ER | 10' cable (black) | 31.95 | 27.15 |

## VGA Monitor Cables

66173ER

- Connects video card to VGA monitor
- IBM PC/XT and higher compatibles
- HDDB15 male to male

| Part No. | Description | 1 | 10 |
|---|---|---|---|
| 66173ER | 6' monitor cable | $6.49 | $5.89 |
| 148523ER | 10' monitor cable | 6.95 | 6.25 |

## Disk Drive Cables

185084ER

72805ER

175492ER

| Part No. | Description | Cable Length | 1 | 10 |
|---|---|---|---|---|
| 185084ER | 34-pin header socket ribbon cable for floppy drive | 25" | $1.19 | $.99 |
| 72805ER | Two 40-pin header socket ribbon cable for IDE drive | 18" | 3.69 | 3.14 |
| 175492ER | 40-pin header socket ribbon cable for ultra DMA66/100 | 17" | 6.95 | 6.25 |

## VGA Monitor Extension Cables

134041ER

66165ER

- Extends VGA monitor cable; HDDB15 male-to-female
- IBM PC/XT and higher compatibles

**134041ER:**
- HDDB15 female with hex nuts and HDDB15 male with thumbscrews

**66165ER/148531ER:** • Thumbscrews on each end

| Part No. | Description | 1 | 10 |
|---|---|---|---|
| 134041ER | 6' screws/hex nuts | $4.49 | $3.95 |
| 66165ER | 6' thumbscrews | 6.59 | 5.95 |
| 148531ER | 10' thumbscrews | 7.49 | 6.79 |

## Computer Card Brackets

- For securing cards into bus slots
- Fits standard PC/XT/AT cases
- See pg 28 for DB connectors

Fig.: 1 2 3

| Part No. | Description | Fig. | 1 | 10 |
|---|---|---|---|---|
| 11754ER | Blank back panel | 1 | $1.79 | $1.59 |
| 101717ER | For DB9 connector | 2 | 1.79 | 1.59 |
| 101733ER | For DB25 connector | 3 | 1.79 | 1.59 |

## ATX Power Supply 15" Extension Cable

- For use with ATX power supplies
- 20-pin ATX male and female connectors
- Color coded to ATX power supply code
- 15"L x 18 AWG (wires)

| Part No. | Mfr. Cross Ref. No. | 1 | 10 |
|---|---|---|---|
| 170237ER | ATX-400-RV | $6.49 | $5.85 |

## 5.25" Disk Drive Power Splitter

- IBM PC/XT and higher compatibles
- Splits 4-line Molex male into 2 females

| Part No. | Drive | AWG | Length | 1 | 10 |
|---|---|---|---|---|---|
| 28353ER | 5.25" | 18 | 5" | $2.95 | $2.69 |

## 12-Piece Lightweight Computer-Service Tool Kit

**Kits includes:**
- 2 nut drivers: 3/16", 1/4"
- 3-claw parts holder
- 1-pc hex key wrench
- IC extractor
- 4-pc screwdriver set
- Tweezers
- 14-16 pin IC inserter/straightener

- Size: 9.0"L x 5.8"W x 1.3"H
- Weight: 1.2 lbs.

| Part No. | Description | 1 | 10 |
|---|---|---|---|
| 14189ER | 12-piece tool kit — NEW | $16.95 | $15.26 |

***Look for Jameco's pick of holiday gift ideas throughout the catalog!***

COLOR CODE LEGEND... NEW SALE REFURBISHED CLOSEOUT



## Intel® Processor-Based Motherboards

These Intel® motherboards provide the ultimate in speed, compatibility and confidence, making them ideal for desktop systems and embedded solutions alike. Pentium® 4 and Celeron® based configurations.

285106ER

285093ER

285077ER

285085ER

285122ER

285114ER

| Jameco Part No. | Model No. | Mfr. | Internal Name | Board Style | Processor Support | Support FSB (MHz) | Chipset | Graphics | Memory Type (SDRAM) | Max. Memory/ Slots | Expansion Slots | | Audio | USB Ports | HDD | On-Board LAN | Board Size | Wt. (lbs.) | Warranty | Jameco Part No. | Pricing 1 | Pricing 10 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 285106ER | BOXD875PBZLK ♠ | Intel | *Bonanza* | microATX | Pentium® 4 | 800 / 533 | i875P | None | DDR 400/333 | 4GB / 4 | 5 PCI 32bit/33MHz AGP 8x/4x | ⟷ | None | USB 2.0 6 Back / 2 Front | 2-ports SATA150 (1.5Gb/s) RAID 0; 2-ports ATA 100 | Intel® PRO/1000CT (Gigabit) | 11.52" x 9.6" | 2.9 | 3 years ltd. | 285106ER | $205.89 ~~$223.59~~ | $185.29 |
| 285093ER | BOXD865PERLL ♠ | Intel | *Rock Lake* | microATX | Pentium® 4/ Celeron® | 800 / 533 / 400 | i865P | None | DDR 400/333/266 | 4GB / 4 | 5 PCI 32bit/33MHz AGP 8x/4x | | Full 6-channel surround sound + optical output with jack sensing | USB 2.0 4 Back / 4 Front | 2-ports SATA150 (1.5Gb/s) RAID 0; 2-ports ATA 100 | PRO/100 (10/100) | 12" x 9.6" | 3.1 | 3 years ltd. | 285093ER | 142.39 ~~$164.15~~ | 128.15 |
| 285077ER | BOXD865GBFL ♠ | Intel | *Bayfield* | microATX | Pentium® 4 | 800 / 533 / 400 | i865G | Intel Extreme Graphic 2 | DDR 400/333/266 | 4GB / 4 | 6 PCI 32bit/33MHz AGP 8x/4x | | Flexible 6-channel audio with jack sharing | USB 2.0 4 Back / 4 Front | 2-ports SATA150 (1.5Gb/s) 2-ports ATA 100 | PRO/100 (10/100) | 11.6" x 9.6" | 2.8 | 3 years ltd. | 285077ER | 131.05 ~~$144.99~~ | 123.49 |
| **285085ER** | BOXD865GLCL ♠ | Intel | *La Crosse* | microATX | Pentium® 4 | 800 / 533 | i865G | Intel Extreme Graphic 2 | DDR 400/333 | 4GB / 4 | 3 PCI 32bit/33MHz AGP 8x/4x | | Full 6-channel with jack sensing | USB 2.0 4 Back / 4 Front | 2-ports SATA150 (1.5Gb/s) 2-ports ATA 100 | PRO/100 (10/100) | 9.6" x 9.6" | 2.5 | 3 years ltd. | **285085ER** | **142.09** | **134.95** |
| 285122ER | BOXD865GRHLK ♠ | Intel | *Rock Harbor* | microATX | Pentium® 4/ Celeron® | 800 / 533 / 400 | i865G | Intel Extreme Graphic 2 | DDR 400/333/266 | 4GB / 4 | 3 PCI 32bit/33MHz AGP 8x/4x | ⟷ | Integrated AC97 audio | USB 2.0 4 Back / 4 Front | 2-ports SATA150 (1.5Gb/s) 2-ports ATA 100 | Intel® PRO/1000CT (Gigabit) | 9.6" x 9.6" | 2.5 | 3 years ltd. | 285122ER | 163.09 ~~$177.95~~ | 157.35 |
| 285114ER | BOXD845GVSRL ♠ | Intel | *Seabreeze* | ATX | Pentium® 4/ Celeron® | 533 / 400 | i845GV | Intel Extreme Graphic | DDR 333/266 | 2GB / 2 | 3 PCI 32bit/33MHz | | Integrated AC97 audio | USB 2.0 4 Back / 4 Front | 2-ATA 100 / 66 | Intel® PRO/100 (10/100) | 9.6" x 8.2" | 2.1 | 3 years ltd. | 285114ER | 79.95 | 74.95 |

♠ These products ship from a separate warehouse and may not ship the same day. Each warehouse will accrue separate shipping charges. Sorry, we are not able to ship C.O.D.

## Intel® Desktop Processors

SALE

Holiday Gift Idea

| Part No. | Product Name | Part Number | Speed (GHz) | FSB (MHz) | Cache | Package | 1 | 10 |
|---|---|---|---|---|---|---|---|---|
| 283258ER | Pentium® 4†** | BX80532PG3200F ♠ | 3.2 | 800 | 2MB | mPGA-478 | **$1,329.95** | **$1,264.25** |
| 283274ER | Pentium® 4†* | BX80546PG3200E ♠ | 3.2 | 800 | 1MB | mPGA-478 ~~$409.85~~ | 311.59 | 304.99 |
| 283311ER | Pentium® 4†* | BX80532PG3200D ♠ | 3.2 | 800 | 512kB | mPGA-478 ~~$409.95~~ | 367.09 | 329.39 |
| 283338ER | Pentium® 4†* | BX80532PE3066D ♠ | 3.06 | 533 | 512kB | mPGA-478 ~~$324.99~~ | 293.75 | 264.35 |
| 283320ER | Pentium® 4†* | BX80532PG3000D ♠ | 3.0 | 800 | 512kB | mPGA-478 ~~$325.09~~ | 293.55 | 264.19 |
| 283291ER | Pentium® 4†* | BX80532PG2800E ♠ | 2.8 | 800 | 1MB | mPGA-478 ~~$295.35~~ | 257.95 | 250.25 |
| **283354ER** | Pentium® 4†* | BX80546PE2800D ♠ | 2.8 | 533 | 512kB | mPGA-478 | **247.09** | **234.75** |
| 283418ER | Intel Celeron®† | BX80532RC2600B ♠ | 2.6 | 400 | 128kB | mPGA-478 | 126.35 | 119.95 |
| 283397ER | Pentium® 4†* | BX80532PG2400D ♠ | 2.4 | 800 | 512kB | mPGA-478 ~~$239.75~~ | 205.95 | 199.29 |
| 283434ER | Intel Celeron®† | BX80532RC2400B ♠ | 2.4 | 400 | 128kB | mPGA-478 | 99.49 | 96.45 |
| 283451ER | Intel Celeron®† | BX80532RC2000B ♠ | 2.0 | 400 | 128kB | mPGA-478 | 91.09 | 88.85 |

† Includes active heat sink; * Hyper-threading technology; ** Extreme edition processor w/ hyper-threading technology
♠ These products ship from a separate warehouse and may not ship the same day. Each warehouse will accrue separate shipping charges. Sorry, we are not able to ship C.O.D.

## Legacy Intel Processors

### *Pentium III/Pentium II/Pentium MMX/Pentium*

| Part No. | Description | Speed (MHz) | Package | 1 | 10 |
|---|---|---|---|---|---|
| 183118ER | Pentium® III processor | 600 | Slot 1 ~~$159.95~~ | $117.59 | $111.75 |
| 183100ER | Pentium® II processor | 400 | Slot 1 ~~$124.99~~ | 99.95 | 74.95 |
| 151651ER | Pentium® II processor | 300 | Slot 1 | 89.95 | 85.45 |
| 190060ER | Pentium® II w/ heat sink | 233 | Slot 1 | 89.95 | 79.95 |
| 150501ER | Pentium MMX® processor | 233 | 376/PGA | 69.95 | 62.95 |
| 140054ER | Pentium MMX® processor ✤ | 200 | 376/PGA | 49.95 | 37.45 |
| 130841ER | Pentium® processor | 166 | 296/PGA | 49.95 | 37.45 |
| 130833ER | Pentium® processor | 133 | 296/PGA | 39.95 | 35.95 |
| 118421ER | Intel 486DX2 processor ✤ | 66 | 168/PGA | 19.95 | 14.96 |

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## Thermoelectric Cooler Chips

- Cools down to -30˚C (dependent on external temp.)
- Temperature max. = 60˚C
- 20 AWG wire leads, 4" long
- Heat or cool by changing direction of current
- Operating voltage: 15.4VDC nominal

172048ER

| Part No. | Mfr. Cross Ref. No. | Couples* | Watts | Voltage (max.) DC | Current (max.) A | Size (L" x W" x T") | Pricing 1 | Pricing 10 |
|---|---|---|---|---|---|---|---|---|
| **172030ER** | TEC30 | 71 | 19.7 | 8.4 | 4 | 1.2 x 1.2 x 0.2 | **$19.95** | **$17.95** |
| **172048ER** | TEC40 | 127 | 35.6 | 15.4 | 4 | 1.6 x 1.6 x 0.2 | **25.95** | **22.95** |
| **172056ER** | TEC50 | 127 | 79.1 | 15.4 | 8 | 2.0 x 2.0 x 0.2 | **33.75** | **29.35** |

* Couples: # of P&N type semiconductor pairs connected electrically in series

## CPU Heat Sinks and Fans

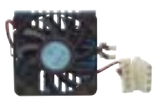
SALE

206244ER

181278ER

216506ER

190545ER


185607ER

118092ER

129226ER

191636ER

174115ER

- Excellent for avoiding CPU overheating during extended system on-time
- High efficiency cooling fans
- Easy installation – just snap it in

| Part No. | Description | Size (H" x W" x D") | Approvals | 1 | 10 |
|---|---|---|---|---|---|
| 206244ER | Heat sink w/ dual fan slot (SECC 2) | 5.25 x 1.95 x 1.30 | CE | $12.95 | $11.65 |
| 181278ER | Heat sink w/ fan for socket 7 (ATX) | 2.12 x 2.05 x 1.67 | UL/CE/CSA | 8.49 | 7.65 |
| 216506ER | Heat sink w/ fan for socket 7 (AT/ATX) | 1.95 x 2.05 x 1.37 | CE | 8.49 | 7.65 |
| 190545ER | Heat sink w/ fan for socket 370 | 2.45 x 2.42 x 2.10 | — | 13.55 | 12.19 |
| 185607ER | Heat sink w/ fan for socket 7 & 370 | 0.98 x 2.37 x 2.40 | CE | 14.95 | 13.49 |
| 118092ER | Heat sink w/ fan for 586 CPU w/ snap | 2.18 x 2.30 x 0.86 | UL/CE/TUV | 4.95 | 4.49 |
| 129226ER | Heat sink for 486 CPU – adhesive back | 1.70 x 1.63 x 0.36 | — | 2.95 | 2.65 |
| 191636ER | Heat sink w/ fan for 486 CPU w/ clip | 1.85 x 1.92 x 0.72 | UL/CE/TUV | 5.95 | 4.45 |
| 174115ER | Heat sink w/ fan for 486 CPU w/ snap† | 1.93 x 1.96 x 0.93 | UL/CUL | 3.95 | 2.95 |

† 14" lead wires

***Turn your PC into an electronic work of art. See pages 82-83 for accessories.***

## Hard Disk Drives

SALE

Holiday Gift Idea

### *3.5" LP UATA/100 Disk Drives*

| Part No. | Model No. | Capacity | Interface | RPM | Seek (ms) | Cache (MB) | Warranty | 1 | 10 |
|---|---|---|---|---|---|---|---|---|---|
| 284891ER | ST3200822A ♠ | 200GB | UATA/100 | 7200 | 8.5 | 8 | 3 yrs ~~$198.49~~ | $128.95 | $126.09 |
| 284867ER | ST3160021A ♠ | 160GB | UATA/100 | 7200 | 8.5 | 2 | 1 yr ~~$148.65~~ | 137.89 | 115.95 |
| 284883ER | ST3160023A ♠ | 160GB | UATA/100 | 7200 | 8.5 | 8 | 3 yrs ~~$159.95~~ | 132.59 | 126.95 |
| 284824ER | ST3120022A ♠ | 120GB | UATA/100 | 7200 | 8.5 | 2 | 1 yr ~~$128.15~~ | 115.79 | 104.95 |
| 284859ER | ST3120026A ♠ | 120GB | UATA/100 | 7200 | 8.5 | 8 | 3 yrs ~~$136.89~~ | 125.25 | 112.39 |
| 284808ER | ST380011A ♠ | 80GB | UATA/100 | 7200 | 8.5 | 2 | 1 yr ~~$103.89~~ | 89.95 | 81.69 |
| 284761ER | ST340015A ♠ | 40GB | UATA/100 | 5400 | 12.5 | 2 | 1 yr ~~$78.89~~ | 72.65 | 69.69 |
| 284744ER | ST320014A ♠ | 20GB | UATA/100 | 5400 | 12.7 | 2 | 1 yr | 69.95 | 67.29 |

### *3.5" LP SATA/150 Disk Drives*

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 284939ER | ST3160023AS ♠ | 160GB | SATA/150 | 7200 | 8.5 | 8 | 3 yrs ~~$174.99~~ | $147.05 | $139.67 |
| 284921ER | ST3120026AS ♠ | 120GB | SATA/150 | 7200 | 8.5 | 8 | 3 yrs ~~$147.15~~ | 119.99 | 117.89 |
| 284904ER | ST380013AS ♠ | 80GB | SATA/150 | 7200 | 8.5 | 8 | 1 yr ~~$111.99~~ | 103.89 | 93.49 |

### *2.5" UATA/100 Mobile Disk Drives*

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 284955ER | ST94011A ♠ | 40GB | UATA/100 | 5400 | 12 | 2 | 3 yrs ~~$173.19~~ | $124.95 | $119.95 |
| 284963ER | ST94811A ♠ | 40GB | UATA/100 | 5400 | 12 | 2 | 3 yrs ~~$180.55~~ | 135.15 | 121.65 |
| 284947ER | ST92011A ♠ | 20GB | UATA/100 | 5400 | 12 | 2 | 3 yrs ~~$120.35~~ | 107.75 | 96.99 |

♠ These products ship from a separate warehouse and may not ship the same day. Each warehouse will accrue separate shipping charges. Sorry, we are not able to ship C.O.D.

## Legacy 3.5" Hard Disk Drives*

SALE

| Part No. | Capacity | Description | Warranty | 1 | 10 |
|---|---|---|---|---|---|
| 283231ER | 20.0GB | Ultra ATA/133 | 3 mos. | $74.95 | $71.29 |
| 200678ER | 15.0GB | IDE ✤ | 3 mos. ~~$69.95~~ | 64.95 | 58.45 |
| 200660ER | 13.0GB | IDE (ATA-4) | 3 mos. ~~$64.95~~ | 59.95 | 53.95 |
| 200651ER | 10.2GB | IDE | 3 mos. | 57.95 | 52.95 |
| 189914ER | 9.1GB | Ultra-wide SCSI SCA ✤ | 3 mos. ~~$49.95~~ | 25.49 | 19.95 |
| 146333ER | 2.5GB | EIDE/Fast ATA-2 ✤ | 1 year | 49.95 | 44.95 |
| 124978ER | 1.27GB | IDE ✤ | 1 year | 35.95 | 32.35 |
| 118949ER | 850MB | IDE ✤ | 1 year | 59.95 | 53.95 |
| 115764ER | 425MB | IDE ✤ | 3 mos. | 59.95 | 53.95 |

✤ **Pull** = Extra Savings *Manufacturers may vary and capacity may exceed specification

## DIMM and SIMM Memory

SALE

148398ER

| Part No. | Mfr. Cross Ref. No. | Capacity | Description | Config. | Pins | 1 | 10 |
|---|---|---|---|---|---|---|---|
| 284998ER | KVR400X64C25/512 | 512MB | DDR400 ♠* | 64M x 64 | 184 ~~$166.35~~ | $135.69 | $125.49 |
| 285026ER | KVR266X64C25/512 | 512MB | DDR266 ♠* | 64M x 64 | 184 ~~$154.99~~ | 114.15 | 102.75 |
| **285018ER** | KVR266X64C25/256 | 256MB | DDR266 ♠* | 32M x 64 | 184 | **85.89** | **81.59** |
| 285042ER | KVR133X64C3/256 | 256MB | PC133 ♠* | 32M x 64 | 168 ~~$90.65~~ | 68.29 | 64.89 |
| 285034ER | KVR133X64C3/128 | 128MB | PC133 ♠* | 16M x 64 | 168 ~~$49.45~~ | 37.95 | 32.45 |
| 148419ER | 16MBX64SDRAM | 128MB | 10ns Syn. DRAM DIMM | 16M x 64 | 168 | 65.95 | 59.95 |
| 148401ER | 8MBX64SDRAM | 64MB | 10ns Syn. DRAM DIMM | 8M x 64 | 168 | 28.50 | 26.95 |
| 148451ER | JEED07264 | 64MB | 60ns SIMM EDO | 16M x 32 | 72 | 29.95 | 28.45 |
| 148398ER | 4MBX64SDRAM | 32MB | 10ns Syn. DRAM DIMM | 4M x 64 | 168 | 18.39 | 16.59 |
| 130711ER | JEED07216 | 16MB | 60ns SIMM EDO | 4M x 32 | 72 | 12.75 | 11.45 |
| 130729ER | JEED07208 | 8MB | 60ns SIMM EDO | 2M x 32 | 72 | 9.95 | 7.45 |
| 75133ER | P361000-XX-6 | 4MB | 60ns SIMM | 1M x 36 | 72 | 12.95 | 11.65 |

♠ These products ship from a separate warehouse and may not ship the same day. Each warehouse will accrue separate shipping charges. Sorry, we are not able to ship C.O.D. * Kingston memory

## 1.44MB 3.5" Internal Floppy Disk Drive

- IBM PC/XT and higher compatibles
- Compatible with DOS versions 3.3 or higher
- Determines if disk is high or low density

TEAC

| Part No. | Product No. | Color | Size | 1 | 10 |
|---|---|---|---|---|---|
| 115490ER | FD235 | Beige | 4.0"W x 5.9"D x 1.0"H | $21.95 | $19.95 |

## Internal IDE CD-ROM Drives

- 5.25" half-height design
- One-year warranty
- Manufacturer varies

**Includes:** Audio cable

189448ER

| Part No. | Speed | Buffer | kB/sec. | Weight (lbs.) | 1 | 10 |
|---|---|---|---|---|---|---|
| 149307ER | 24x | 256kB | 3600 | 2.6 | $27.95 | $24.95 |
| 189077ER | 48x ✤ | 128kB | 7200 | 2.6 | 35.95 | 30.95 |
| 189448ER | 56x | 128kB | 8400 | 2.3 | 39.95 | 29.95 |

✤ **Pull** = Extra Savings

## 150 to 400-Watt PC Power Supplies

172822ER

| Part Number | Mfr. | Product Number | Watts (W) | Output (VDC/A) | Input (VAC @ Hz) | Input Connector (Mating Connector/Cord) | Output Connector (Mating Connector) | Certification | Size (L" x W" x H") | Weight (lbs.) | Pricing 1 | Pricing 10 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **201435ER** | Xtreme Power | EPA400 | 400 | +3.3/33, +5/45, +12/15, +5VSB/1, -5/1, -12/1 | 115/230 @ 47-63 switchable | 3-prong AC receptacle with 6' power cord | ATX | UL/CSA/TUV/CE | 5.6 x 5.9 x 3.4 | 5.0 | **$109.99** | **$93.49** |
| **152514ER** | High Power | JE8250 | 250 | +3.3/16, +5/25, +12/10, +5VSB/1.5, -5/0.5, -12/0.5 | 115/230 @ 50-60 switchable | 3-prong AC receptacle with 6' power cord | ATX | UL/CSA/TUV | 5.5 x 5.9 x 3.4 | 3.3 | **49.95** | **44.99** |
| 196189ER | Emacs | MPW-6150F | 150 | +3.3/6, +5/10, +12/6, +5VSB/0.72, -5/0.2, -12/1 | 115/230 @ 50-60 switchable | 3-prong AC receptacle (P/N 38050ER, pg 42) | ATX | UL/CUL/TUV/CE | 7.5 x 4.0 x 1.6 | 2.5 | **34.95** | **29.75** |
| **172822ER** | Mean Well | AA-230 | 200 | +5/20, +12/8, -5/0.5, -12/0.5 | 115/230 @ 50-60 switchable | 3-prong AC receptacle with 6' power cord | AT | CSA/TUV/CE | 6.0 x 4.6 x 3.4 | 2.6 | **49.95** | **44.96** |



COLOR CODE LEGEND... NEW SALE REFURBISHED CLOSEOUT

COLOR CODE LEGEND... NEW SALE REFURBISHED CLOSEOUT

## PCMCIA RS-232 Interface

PC card / PCMCIA-based serial port card.

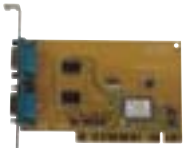
- Low cost single port RS-232 interface
- Uses 16550 UART • 5, 6, 7 or 8 data bits
- Odd, even or no parity
- 115k baud data rates
- Configured as COM1, COM2, COM3 or COM4
- PCMCIA type II compliant

**Includes:** 1' cable

| Part No. | Description | Price |
|---|---|---|
| 164451ER | PCM-COM232 card | $97.95 |

## PCI High-Speed Multi-Port Serial I/O

***Dual 16C650 Serial Ports (2) DB9M Connectors***



- 32-byte FIFO
- Plug & Play compatible
- Standard RS-232 interface
- Transfer rate: up to 921kb/sec.
- Supports IRQ sharing

**Includes:** Manual and drivers on CD-ROM & floppy

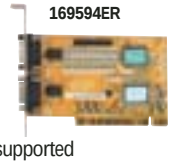
**System requirements:**
486 and higher compatible, Windows® 95/98/NT/2000

| Part No. | Description | Price |
|---|---|---|
| 172005ER | 2-port PCI serial | $48.45 |

## PCI Ultra High-Speed I/O

***Serial 16C550 and Parallel Port***

169594ER



- 32-bit PCI bus with PCI bus 2.1 specification compliant
- Serial ports are software configurable w/ throughputs up to 921.6kbps
- BPP/SPP mode compliant
- Windows® 95/98/NT 4.0 drivers supported

**169594ER:** 2 serial DB9M on card and 1 parallel DB25F panel bracket assembly

| Part No. | Description | Price |
|---|---|---|
| 146667ER | Dual serial (16C550) | $38.95 |
| 169594ER | 2 serial (16C550) and 1 parallel | 59.95 |

## RS-232 to RS-485/422 Bidirectional Converters

117701ER

- Cable length: 4000' max.
- Data rate: 1MB/second
- 4-wire full duplex or 2-wire half duplex
- Controlled by RTS signal
- Point-to-point and multidrop operations
- RS-485: terminal block & RJ11 connections
- RS-232: DB25 female connector • Input: 110VAC

**197931ER:** port powered (power adapter not included)
• Data rate: 100kbps

**122956ER:** features RS-485SI optical isolation: 2000V

**Includes:** 9VDC @ 300mA power adapter

| Part No. | Description | Price |
|---|---|---|
| 117701ER | RS-232-485/422 | $57.95 |
| 197931ER | RS-232-485/422 | 69.95 |
| 122956ER | RS-232-485/422 OPT ISO | 119.99 |

## Short Haul Modem

- Up to 38,400 baud
- Will communicate over 6.3 miles of cable
- No external power required
- DCE/DTE selectable
- Xon-Xoff or hardware handshaking
- RS-232 interface (DB25 female)

| Part No. | Description | Price |
|---|---|---|
| 116581ER | Short haul modem | $29.95 |

## Bidirectional Non-Buffered Serial-to-Parallel Converter

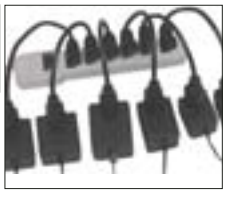
- Bidirectional conversion of parallel and serial signals
- Serial interface: hardware handshake RTS/CTS, software handshake XON/XOFF; DCE/DTE selectable; parity: odd, even, or no parity; data bits: 7, 8
- Connectors: one DB25 female and one Centronics 36-pin male
- Baud rate: 300 to 38400bps • Stop bits: 1 or 2
- Size: 4.0"L x 2.5"W x 1.0"H • One-year warranty

**Includes:** AC adapter (9VAC @ 200mA) and manual

| Part No. | Description | Weight | Price |
|---|---|---|---|
| 116935ER | Bidirectional converter | 0.8 lbs. | $49.95 |

## Power Strip Outlet Saver

Before
Four Outlets Blocked



After
Every Outlet is Usable

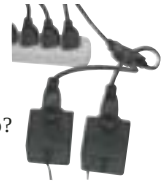
199777ER

With our high quality power strip outlet saver, you can use all the outlets on your surge suppressors, UPS, and outlet strips. Just plug a bulky power adapter into this cable and free up your other outlets.

- Cord type: SVT • Cord length: 1'

| Part No. | Description | 1 | 10 |
|---|---|---|---|
| 199777ER | AC power cord (black) | $1.69 | $1.55 |
| 208338ER | AC power cord (beige) | 1.69 | 1.45 |

## Power Strip Saver Double Outlet



Get full use of your power strips. Plug those bulky adapters into these cables and plug the cables into the power strip. Need the extra adapter to be plugged into the power strip? Use the "Y" power strip saver to add an extra adapter.

| Part No. | Description | 1 | 10 |
|---|---|---|---|
| 208346ER | Power strip saver | $2.89 | $2.75 |

## 19" Rack Mount Enclosures

Perfect for equipment setup in home, studio or laboratory.

- Ventilation holes on all sides
- Front and back panels are steel w/ aluminum, pre-punched face plates
- Top, bottom, sides durable 0.035" steel
- Front panel: 0.12" Thick • Black front panel
- All enclosures have handles except P/N 132812ER

**Includes:** Mounting screws

| Part Number | Dimensions (In.) H1 | H2 | D | Weight (lbs.) | Pricing 1 | 10 |
|---|---|---|---|---|---|---|
| 132812ER | 1.73 | 1.25 | 9.75 | 6.2 | $39.95 | $35.99 |
| 132821ER | 3.46 | 3.0 | 9.75 | 7.9 | 47.95 | 43.49 |
| 132839ER | 3.46 | 2.88 | 11.75 | 9.1 | 53.95 | 48.59 |
| 132847ER | 5.22 | 4.75 | 11.75 | 10.6 | 63.95 | 55.99 |
| 132855ER | 5.22 | 4.75 | 13.50 | 11.8 | 73.95 | 66.95 |

## Removable HD Rack and Insert

196040ER

- For quick drive swapping
- Removable storage for 3.5" IDE drive
- Power LEDs
- Keylock for security

**196040ER:**
- Size: 5.8"W x 8.5"D x 1.5"H
- Weight: 1.2 lbs.

**196031ER:** • Size: 4.1"W x 7.5"D x 1.6"H • Wt: 0.8 lbs.

**Includes:** Inner cable with IDE connector

| Part No. | Description | 1 | 10 |
|---|---|---|---|
| 196040ER | IDE rack w/ insert | $27.95 | $20.95 |
| 196031ER | Insert for 196040ER | 19.95 | 16.99 |

## External IDE HDD Enclosure with Parallel Interface

External HDD enclosure for IDE hard drives with a parallel port interface for connecting to a PC or laptop. No drivers needed. Windows® 98 and above will automatically detect hard disk drive.

- Parallel port interface
- Front panel green LED indicator
- On/off power switch
- Built-in fan and 110V power supply

| Part No. | Description | 1 | 5 |
|---|---|---|---|
| 249316ER | HDD external enclosure | $19.95 | $15.95 |

## Keep dangerous spikes and surges out of site, and out of mind!

*Cable/ satellite/ antenna connection*

SALE

Protect your valuable equipment as you eliminate clutter with this easy-to-install surge protector. This unit is a direct replacement for your existing AC wall plate; no wiring is required. Your cable / satellite / antenna connection and two outlets are fully protected against damage from harmful electrical spikes and surges. Two safe-operation lights ensure correct installation and active protection.

| Part No. | Description | Price |
|---|---|---|
| 235002ER | RCA universal surge protector | ~~$12.95~~ $9.95 |

Guard against power spikes and surges as you protect your modem / fax / phone system from harm. No complicated wiring is required; this easy-to-install surge protector is an effortless, plug-in replacement for your existing AC wall plate.

*Simply plug in your RJ11 cable for added security*

| Part No. | Description | Price |
|---|---|---|
| 234991ER | RCA universal surge protector for phone/fax | ~~$12.95~~ $9.95 |

## PCI Video Capture Card

This new high speed PCI video capture card provides superb digital images from multiple cameras and remote surveillance. High-resolution digital color image storage and management with real-time video observation capability. No need to watch endless hours of recordings of nothing, you can choose to be alerted by email when the built-in motion detector is activated.

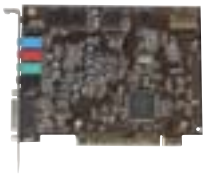
- Input signal: 4 video, 1 audio synchronized mono (with sound card) • Enhanced MPEG4 format
- Display & record: 60 frames per second (per card)
- Record Mode: event/continuous/scheduled
- Display: 1/4/9/16/full screen • Time/date stamp
- Color adjust: adjustable light, contrast, hue, saturation
- Resolution: 160 x 120 up to 640 x 240
- Multitask: monitoring, recording, PTZ control, remote, back-up • Size: 4.9"L x 3.6"H
- Storage: HDD, VDRAM, CD-RW, DAT, ZIP
- Support internet monitoring: client software, Explorer, or Windows® Media Player

**Includes:** CD-ROM software and drivers

**Minimum system requirements:** Pentium® III/ 800MHz, 128 RAM, 32M AGP video card or above

| Part No. | Product No. | Price |
|---|---|---|
| 262019ER | EDV-XVIEW4 | $237.55 |

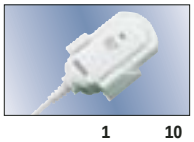
## PCI 32-Bit Sound Card



Have your game and music content come alive using this analog four-speaker output - even if your sound source doesn't support 3D sound! Utilizes the same EMU10K1 audio processor as the Sound Blaster Live, the most powerful audio chip available today. This translates into all-around fantastic sounding audio experience with higher frame rates for your games and more bandwidth for 3D audio. Microsoft Windows® NT 4.0 and Windows® 95/98 operating system compatible.

| Part No. | Description | Price |
|---|---|---|
| 249404ER | PCI 32-bit sound card | $36.95 |

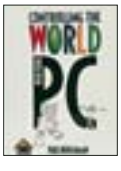
## Hands-Free Condenser Microphone



- Cord length: 8'
- Connector: 3.5mm male stereo plug
- Size: 1.9"L x 1.2"W x 0.3"H
- One-year warranty

| Part No. | Description | 1 | 10 |
|---|---|---|---|
| 135247ER | Microphone | $4.49 | $3.99 |

## Controlling the World with Your PC




***Hightext Publishing*** Make your PC control stepping motors, monitor fluid levels, or switch appliances on and off! Each of the circuits in this book connects directly to the parallel printer port of your PC and comes complete with a circuit diagram and listings for control software written in Pascal, C and BASIC. (257 pages, 1994)

**Includes:** 3.5" disk

| Part No. | Description | Price |
|---|---|---|
| 116943ER | Controlling the World — NEW | $34.95 |

## Color CCD Camera

***Sony Chipset***

- 1/4" Sony super HAD CCD sensor • Furnished mini lens: 3.6mm
- NTSC system with 510(H) x 492(V) • Signal to noise ratio: >48dB
- Supports these functions: auto electronic shutter (AES), auto iris control (AIC), auto gain control (AGC), auto white balance (AWB), back light compensation (BLC) & flicker less (FL) • 330 TV lines
- Video drive iris control; high/low switchable auto gain control; on/off backlight compensation
- Internal, negative synchronous system

**Requires:** 12VDC @ 120mA power supply (recommend P/N 100095ER, pg 102)

**Includes:** Power/signal cable & mounting hardware

| Part No. | Description | Video Output | Minimum Illumination | 1 | 10 |
|---|---|---|---|---|---|
| 213436ER | Enclosed color camera | 1Vp-p; 75Ω | 0.5 lux @ f2.0 | $179.95 | $161.95 |

*Log on today!*
*www.Jameco.com*

## 5.6" Color TFT Monitor

***NTSC Format***

- TFT color LCD display
- 224 x 640 pixel display resolution
- Built-in 1 watt speaker
- Brightness, color and volume adjustments
- Video input: 1.0Vp-p; 75Ω
- Audio input: 2Vp-p; 2kΩ
- Size: 6.1"W x 4.8"H x 1.2"D • Weight: 2.6 lbs.

**Includes:** RCA cable, mounting stand with hardware and 12VDC @ 500mA power supply

| Part No. | Description | 1 | 10 |
|---|---|---|---|
| 201702ER | 5.6" TFT color monitor | $279.95 | $259.95 |

## 15" SVGA Color Monitor†

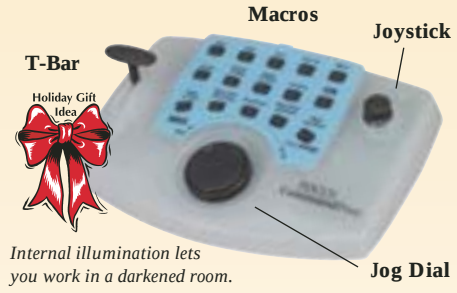
† Refurbished

- 0.28mm dot pitch
- Res.: 1280 x 1024 @ 60Hz
- Digital panel control
- Input voltage: 100-240VAC, 50/60Hz (auto switching)
- Power, contrast, brightness, horizontal and vertical size position, recall and trapezoid front control
- HDDB15 male connector • UL/CSA/TUV approved
- Size: 14.5"W x 16"D x 14.6"H • Weight: 45 lbs.

**Requirements:** IBM PC/XT or higher compatibles

**Includes:** Power cable, tilt and swivel base

| Part No. | Description | 1 | 10 |
|---|---|---|---|
| 153306ER | 13.5" monitor viewable † | $99.95 | $89.95 |




*Internal illumination lets you work in a darkened room.*

## Faster, easier video editing at a fantastic price!

Create better videos faster, and have more fun doing it. The ProVideo Editing Controller system combines the most frequently used multimedia controls into a single customizable console that makes your favorite applications work together as one. Assign complicated multi-key sequences to any of the 15 keys, joystick, fader bar or jog wheel, and execute them with one touch. Switch between applications automatically as you work. Comes with VideoWave 4.0 editing software which includes templates for all popular applications, and you can save your own templates for virtually any application. Requires Windows® 98+ or Mac 8.6+. Includes USB cable. (Mac software not included. Download at www.Jameco.com)

| Part No. | Description | Price |
|---|---|---|
| 220329ER | Pro-video editing controller ~~$29.95~~ | $26.95 |

**Product Specifications:**

- Frequency response 110Hz - 18kHz +/- 3dB
- Input impedance: 10KΩ
- Voltage: 110V
- Size speaker: 5.4"H x 2.8"W x 4.6"D
- Size subwoofer : 6.0"H x 4.3"W x 5.4"D
- Weight: 3.14 lbs.

SALE

## Super-size sound for your PC, at drive-through prices!

You'll enjoy crisp highs and booming bass when you add this economical but feature-packed set of magnetically-shielded speakers to your computer system. The satellite speakers deliver big stereo sound in a small package that will complement any desktop. And the compact subwoofer discreetly belts out the bass to make your music and gaming experiences the best they can be. User-friendly features include trouble-free A/C power, convenient on/off and volume controls, and a small, classy footprint for flexible installation.

| Part No. | Description | Price |
|---|---|---|
| 233390ER | Powered subwoofer system ~~$14.95~~ | $10.49 |

COLOR CODE LEGEND... NEW SALE REFURBISHED CLOSEOUT

## Business Card CD-R Kit

SALE

This business card size CD-R kit includes twelve 50MB capacity CD-R disks and sleeves, 16 labels and label design software. You can print your personal or business information and burn company brochures, photos, sales presentations, business reports and so on. A great way to show your resume or promote your business in trade shows and exhibits. Easy to carry and cost-effective.

| Part No. | Description | Price |
|---|---|---|
| 249308ER | Business Card CD-R kit ..... | ~~$5.95~~ $5.59 |

## 48x CD-R 100 Pack

- 700mb
- Speed: 48x
- 80 minutes • 100 pack

| Part No. | Description | Price |
|---|---|---|
| 249447ER | CD-R 100 pack ..... | $28.95 |

## CD Accessories

172179ER

208514ER

| Part No. | Description | 1 | 5 | 10 |
|---|---|---|---|---|
| 172179ER | Single jewel case ..... | $.49 | $.41 | $.31 |
| 208514ER | Paper envelope 25 pk. ..... | 2.49 | 2.25 | 1.99 |

## Plug-and-play biometric watchdog secures your data.

The EyeD Hamster fingerprint recognition tool for computers provides you with both security and convenience. Place the compact, self-powered Hamster next to your keyboard, and put the finger on would-be hackers with biometric security. The device and its SecuDesktop™ 2000 software suite reads your fingerprint in under a second, and allows PC access only to authorized users. Easy USB, PS/2 or parallel port with pass-through connection. Includes installation manual and CD-ROM drivers.

**System requirements:** Windows® 95/98/NT4.0/2000/ME/XP, available USB port

| Part No. | Description | Price |
|---|---|---|
| 262713ER | EyeD hamster fingerprint scanner | $115.95 |

***More @ www.Jameco.com***

## Cool, professional disc labels, made easy!

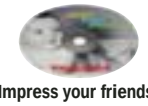
SALE

Now you can economically label your music CDs, business presentations, DVD compilations and multimedia portfolios like a true professional. Whether you choose standard-size discs, mini-discs or business-card media, this kit will help you design, print and apply the perfect label for your needs. Exact-fit applicator makes precise labeling quick and easy. Order refill kits now, too, in Gloss (LK4) or Matte (LK5) finishes, or choose a versatile kit (LK3) packed with jewel case inserts, disc labels, and multipurpose labels.

| Part No. | Product No. | Description | Price |
|---|---|---|---|
| 235150ER | LK2 | CD/DVD/MINI label kit ..... | ~~$19.95~~ $14.45 |
| 235176ER | LK4 | CD/DVD labels glossy white ..... | ~~$12.95~~ 9.35 |
| 235168ER | LK3 | CD/DVD labels matte white ..... | ~~$9.95~~ 7.19 |
| 235184ER | LK5 | Jewel case inserts ..... | 9.95 |

## EZ/CDPrint Printer

Introducing the EZ/CDPRINT, the first printer that delivers a low-cost way to create professionally printed CD-R's, Credit Card CD-R's, CD Jewel case liner notes and standard color paper documents.



Impress your friends

220708ER

No more messy handwritten CD's

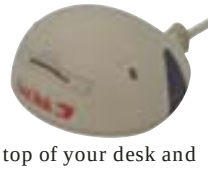
- Prints a full color CD in about a minute
- Compatible with all inkjet printable CD-R & DVD-Rs
- Both USB and parallel port connections
- Uses standard C60/C62 Epson inkjet cartridges
- Prints paper documents at 12ppm monochrome & 7ppm color
- Printer size: 18.0"W x 8.0"D x 7.0"H
- Special PC and Mac software and templates to print CD, liner notes and more

**Requires:** Windows® 95/98/2000/ME/XP, Mac OS 8.1 or higher operating systems

**Includes:** Printer, PC and Mac printer and template software, three printable disks

| Part No. | Description | Price |
|---|---|---|
| 220708ER | CD printer (software, cable, ink cartridges and CD-R's) ..... | $279.95 |

## Multimedia USB Card Reader



Here's an easy way to upload photos, files, movies, and data from your multimedia flash memory card to your computer! This flash memory card sits right on top of your desk and acts like a removable disk drive, treating your memory card like a diskette. Drag & drop files from the card to your computer & vice versa.

- 1 expansion slot for multimedia card
- USB-A male connector
- Compatible with PC's and MAC

SALE

| Part No. | Product No. | Price |
|---|---|---|
| 278125ER | SDDR-1201 ..... | *Was ~~$13.59~~* $9.95 |

QTRONIX.

## Trackball with Menu Software

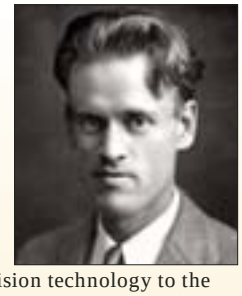
- Detachable wrist strap
- Variable res. (20-6400 dpi)
- Ergonomic design
- One million cycle life tactile switches
- 3.5" disk
- One-year warranty
- Size: 5.5"L x 4.6"W x 2.0"H

**System requirements:** IBM PC/XT and higher compatible systems; MS DOS 3.3 or later, Windows® 95

| Part No. | Description | Price |
|---|---|---|
| 128995ER | LIBRA 90 PM NET ..... | $29.95 |

## The Man Who Invented the Television

***Philo Taylor Farnsworth (1906-1971)***



The inventor of the single most significant device in modern communications was born in a log cabin, and he rode to high school on horseback. A mechanical prodigy, Philo built an electric washing machine for his mother at the tender age of twelve. His first foray into video transmission came at age fourteen. Five years later, he landed some funding and started a company to develop a television.

In 1927, Farnsworth received his first patents and demonstrated the first electronic television image, at a whopping 60 horizontal lines of resolution. It was so astounding to those present that investor George Everson fired off his famous telegram immediately after the demo: "The damned thing works!"

Farnsworth later invented over 165 devices, including electronic scanners, electron multipliers, varieties of vacuum tubes, and other innovations. And though he gave television technology to the world, he later became a notable critic of its content. "There's nothing on it worthwhile," he once said, "and we're not going to watch it in this household, and I don't want it in your intellectual diet."

## Your new favorite mouse is Mini!

For no-nonsense reliability in a compact form, you can't beat this plug-and-play performer. Optical technology lets you work on any surface, even without a mousepad. And this mouse is the perfect size to slip into your laptop case. While it may be small, the features are full-size: PS/2 or USB connectivity, finger-tip scroll wheel, and 800 dpi resolution deliver top-of-the-line functionality, all at an unbeatable Jameco price.

| Part No. | Description | Price |
|---|---|---|
| 265471ER | Mini mouse | $17.89 |

## QTRONIX® USB or PS/2 3-Button Optical Wheel Mouse

- Ergonomic style 3-button optical wheel mouse
- High tech optical sensor for all surface types
- Size: 3.9"L x 2.3"W x 1.5"H

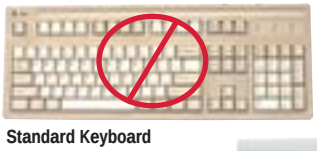
**System requirements:**

IBM PC or compatible, Windows® 98/2000/ME/XP, available PS/2 or USB port

| Part No. | Description | Price |
|---|---|---|
| 199591ER | Lynx-LVII | $29.95 |

## Space-Saver Keyboards

Full featured AT & PS/2 mini keyboards save valuable desktop space.



Mini Keyboards save up to 30% desk space!

**Standard Keyboard**

- Adjustable tilt mechanism
- Tactile key stroke
- LED indicators for Num, Caps, and Scroll lock

211756ER

**199718ER: 83-key keyboard**
- For PS/2 systems
- Auto repeat • N-key rollover
- Size: 12.8"L x 6.2"W x 1.0"H • Weight: 1.9 lbs.

**114868ER: 84-key keyboard**
- For AT systems, designed for Windows® 95
- Size: 12.8"L x 6.6"W x 1.0"H • Weight: 2.4 lbs.

**211756ER: 88/89-key keyboard w/ touch pad**
- For AT systems, designed for Windows®
- Built-in touch pad and embedded keyboard
- Soft touch membrane contact
- Size: 11.4"L x 8.5"W x 1.2"H • Weight: 2.3 lbs.

| Part No. | Description | Price |
|---|---|---|
| 199718ER | 83-key PS/2 | $45.95 |
| 114868ER | 84-key AT | 49.95 |
| 211756ER | 88/89-key AT | 59.95 |

## Organize and maximize your workstation.

Tired of trying to work without enough space? Free up your desk space with this convenient clip-on mouse platform. No drilling required – clamps on securely to your desk or workstation without damaging the desk. This unit also stores completely below your desk so you don't have to see it when not in use. Includes a cord clip to keep mouse cords tangle free and in position.

| Part No. | Description | Price |
|---|---|---|
| 249105ER | Clip-on mouse pad | $9.95 |

## Wireless freedom, RF reliability, rechargeable convenience!

Looking for the perfect desktop mouse? Memorex has engineered this 5-button gem to combine the most-requested features into one brilliant product. USB and PS/2 connectivity makes installation a snap. Three of the buttons are programmable to simplify repetitive tasks, and the RF link and optical laser tracking technology ensure precise cursor control within a six-foot range. And when you're not working, the included desktop dock keeps the rechargeable batteries topped-off and ready for your next session!

| Part No. | Description | Price |
|---|---|---|
| 265447ER | Wireless RF optical mouse | $29.95 |

## iOne 104-Key Keyboard with Jumbo Trackball

NEW

- PS/2 compatible w/ DOS 3.0 or higher
- "N-Key" roll-over for quick typists
- One-year warranty • Windows® 95 compatible
- Size: 19.0"L x 6.8"W x 1.4"H • Weight: 3.7 lbs.

**Includes:** Software and USB adapter

| Part No. | Description | Price |
|---|---|---|
| 128718ER | Scorpius 35PU/NET | $99.95 |

## 104-Key USB Keyboard

- For PC's with USB ports • Windows® compatible
- Windows® start menu key • Soft-touch key
- 12-function keys with separate cursor and numeric keypad
- Extra USB ports on side and rear
- LED indicator for Num, Caps, Scroll Locks
- Multifunction keys for email, multimedia and sound
- Size: 18.6"L x 7.8"W x 1.4"H • Weight: 3.8 lbs.

Gateway®

| Part No. | Description | Price |
|---|---|---|
| 263521ER | USB keyboard | $16.25 |

## COMPAQ 101-Key Keyboard

- For PS/2 systems
- Tactile touch
- 12 function keys with separate cursor & numeric keys
- LED indicators for Num, Caps, and Scroll lock
- Recommend using adapter P/N 85500ER, pg 74
- Size: 18.3"L x 6.5"W x 1.3"H • Weight: 3.6 lbs.

| Part No. | Description | Price |
|---|---|---|
| 191530ER | 101-key keyboard — NEW | $18.95 |

## QTRONIX® 17-Key PS/2 Keypad

A compact keypad designed for use with IBM compatible laptops and desktop PC.

- Auto-repeat function
- Tactile click-sound and touch
- Switch life of 20 million cycles
- For IBM PS/2 and compatibles
- Two key roll over
- One-year warranty
- Size: 5.6"L x 3.4"W x 0.9"D
- Installs into 6-pin mini DIN keyboard connector (no software required)

| Part No. | Description | Price |
|---|---|---|
| 151811ER | Scorpius 20PB | $34.95 |

## Wireless keyboard and mouse set you free and end desktop cable clutter.

Tired of tugging at the cables that tie your keyboard and mouse to your PC? Replace them with this completely wireless multimedia keyboard and mouse. Just plug the receiver into two PS/2 ports on your PC, install the software, and you're jamming. The system uses radio frequency (RF) communications technology, not infrared like many other wireless keyboards. So you don't have to worry about staying within line-of-sight of the receiver. In fact, you can use the keyboard and mouse up to 3' away. Keyboard includes 16 Internet and media hot keys. Opto-mechnical mouse features 3 buttons and scroll wheel, 400 dpi hardware high resolution. Includes 2AA batteries for keyboard; 2AAA batteries for mouse, user's guide, multimedia drivers.

| Part No. | Description | Price |
|---|---|---|
| 233381ER | Wireless RF keyboard and mouse | $27.95 |

COLOR CODE LEGEND... NEW SALE REFURBISHED CLOSEOUT

## Modding

"Modding" is turning your PC into an electronic work of art. Jameco now has the lighting, windows, LED fans, lighted USB and rounded cables for a modder to truly impress. Get started now and turn your PC into the king of LAN parties or just the coolest PC on the block!

## Stock up on these kits, then light up your next LAN party!

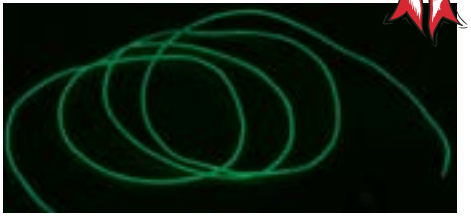
Holiday Gift Idea

Make your PC the envy of the neighborhood with cool-running, brilliant cold-cathode light! Available in super-bright green, red, and blue, these kits add class and status to your tower with ease. Each kit plugs directly into an open power supply connector, and includes dual outputs for an extra bulb. A PCI bracket switch provides convenient on/off control. Choose your colors, and get the party started!

| Part No. | Description | Price |
|---|---|---|
| 263257ER | Cold cathode light kit-blue | $19.95 |
| 263265ER | Cold cathode light kit-red | 19.95 |
| 263273ER | Cold cathode light kit-green | 19.95 |
| 263290ER | Light bulb for second output-blue | 10.95 |
| 263302ER | Light bulb for second output-red | 10.95 |
| 263281ER | Light bulb for second output-green | 10.95 |

## Four-and-a-half feet of flexible fluorescent fun!

Holiday Gift Idea



Imagine the possibilities! You can wrap this safe, cool "neon" wire around anything you want to, transforming ordinary objects with high-tech, light-up special effects. Bikes, scooters, musical instruments, models, science-fair displays, presentation boards, anything you want to supercharge with visual pizzazz can now take on a brilliant glow. Available in green, blue and red, and portable-powered by 2 AAs. You'll want all three colors for your creations!

| Part No. | Description | Price |
|---|---|---|
| 263484ER | Electroluminescence wire-blue | $21.95 |
| 263505ER | Electroluminescence wire-green | 21.95 |
| 263492ER | Electroluminescence wire-red | 21.95 |

## Maintain your PC's cool, with style!

SALE

Holiday Gift Idea

Outfit your desktop PC with this 4-channel fan controller, and you'll be in full control of your computer's cooling power and noise level. Bright multi-color LED ring-lights surround each of the front-panel knobs, adding an amazing flair to your prize machine. Installation is easy: the aluminum controller features a standard "U" type housing, high per-fan capacity (15 to 18 watts!), 3-pin to 4-pin / 4-pin to 3-pin adaptors, and plug-in ease of installation (no need to cut wires). Slip one into an empty 5.25" external drive bay, and achieve a whole new level of cool!.

| Part No. | Description | Price |
|---|---|---|
| 285579ER | 4-channel fan controller | ~~$19.95~~ $15.95 |

## Color coordinate your MOD computer with these color fan grills!

SALE

You have a new MOD computer with colored lights, controls, keyboard, mouse and case but you still have that same old black or metal fan grill. Give life to your existing fans with these new acrylic fan grills with color LED's. The LED's on the multi-colored fan grill changes to 7 different colors. Choose from four different colors. Now you can have a complete MOD computer that will be the envy of all. Fits fans with 80mm mounts.

| Part No. | Description | Price |
|---|---|---|
| 285552ER | Green LED fan grill | ~~$3.45~~ $2.49 |
| 285544ER | Red LED fan grill | ~~$3.45~~ 2.49 |
| 285561ER | Blue LED fan grill | ~~$3.45~~ 2.49 |
| 285536ER | 7 color LED fan grill | ~~$3.95~~ 2.99 |

## Show off your mods in acrylic style!

*Easy as 1-2-3. Just choose your style!*

SALE

*Square also available!*

Why replace your case? With these easy, do-it-yourself kits, you can create a classy clear acrylic window in your trusty PC in the trendy shape of your choice. In mere minutes you can install a square, rectangular or L-shaped portal to show off your interior cold-cathode lights, glowing fans and illuminated cables. All materials are included, and detailed step-by-step instructions will ensure expert results.

| Part No. | Description | Price |
|---|---|---|
| 263054ER | Computer window kit L-shape | $18.75 |
| 263134ER | Computer window kit rectangle-shape | 9.95 |
| 263118ER | Computer window kit square-shape | 11.89 |
| 18809ER | Nibbling tool to cut case | 7.95 |

## Put some flash in your fan!

*Everyone will go hog-wild with our tri-color LED fan!*

*Also available in red, blue & green!*

SALE

No super-hot computer mod is complete without these high-efficiency, ball bearing quiet and colorful LED case fans. Choose from 4 LED colors: ruby red, bold blue, groovy green, or go hog-wild with a tri-color fan. Installation is screwdriver-easy; just remove your old, boring fans and pop these colorful attention grabbers into place. These fans are the perfect addition for your modding creation.

| Part No. | Description | Price |
|---|---|---|
| 263020ER | LED case fan tri-color with grill | ~~$9.95~~ $6.95 |
| 263011ER | LED case fan blue with grill | ~~$9.95~~ 6.95 |
| 262991ER | LED case fan green with grill | ~~$9.95~~ 6.95 |
| 263003ER | LED case fan red with grill | ~~$9.95~~ 6.95 |

## Cold-Cathode Lighting

Add flourescent color to your projects, computer case, car and other displays with these economical lights. Now you can easily and affordably mount these 4" light tubes to add cool cold-cathode effects and give your display a richer, trick look and feel. Optional power supply below converts 12VDC input into 180-800V output needed by lights.

| Part No. | Description | Price |
|---|---|---|
| 239581ER | Black light | $9.95 |
| 239572ER | Blue light | 9.95 |
| 239599ER | Green light | 9.95 |
| 239601ER | Pink light | 9.95 |
| 239610ER | White light | 9.95 |
| 239628ER | Yellow light | 9.95 |
| 239636ER | Power supply for above | 9.95 |

**Tell us about the products you would like us to offer. Send all request to:**
**AtHome@Jameco.com**

## Work or play at your PC under any lighting conditions!

Your friends will glow with envy when they see this unique and trendy keyboard. Lit with a cool blue luminescence, all keys on this PS/2 peripheral are instantly identifiable, even in total darkness. Why break the mood of your favorite game with harsh overhead lighting when you can keystroke with perfect, futuristic, illuminated accuracy?

- Size: 15.3"L x 5.9"W x 1.3"H
- Weight: 1.7 lbs.

| Part No. | Description | Price |
|---|---|---|
| 235563ER | Illuminated PS2 keyboard | $79.95 |

*Keyboard lights up with a cool blue luminescence. Ideal for gamers!*

## Round neon cables light the way to PC style and performance!

Flat cables are out, and cool light-up round cables are in! Now you can reduce internal cable clutter and heat build-up with these outstanding replacements. The EIDE cable supports two devices and is 80-wire/40-pin equipped, so it's ready for fast Ultra 66/100/133 applications. And both add a radical glow to your PC's interior!

| Part No. | Description | Price |
|---|---|---|
| 263169ER | 18" light floppy cable | $12.95 |
| 263151ER | 24" light ATA133 EIDE cable | ~~$23.95~~ 19.59 |

## Transform USB connections from beige to beautiful!

Boring cables are a thing of the past with these new 6 feet, colorful USB beauties. Choose your colors (red, white, blue, orange and green) and cable types and replace all your old connections with new, light-enabled technology. USB 2.0-ready and protected by a lifetime warranty, these cables are ready for the future. Color-code your connections today, and get your PC out of the dark ages!

| Part No. | Description | Price |
|---|---|---|
| 262588ER | USB 2 cable orange ..... Was ~~$5.95~~ | $4.49 |
| 262431ER | USB 2 cable white ..... Was ~~$5.95~~ | 4.49 |
| 262596ER | USB 2 cable white extension Was ~~$5.95~~ | 4.49 |
| 262457ER | USB 2 cable green ..... Was ~~$5.95~~ | 4.49 |
| 262609ER | USB 2 cable multi-color | 8.95 |
| 262570ER | USB 2 cable blue ..... Was ~~$5.95~~ | 4.49 |
| 262617ER | USB 2 cable blue extension Was ~~$5.95~~ | 4.49 |
| 262406ER | USB 2 cable red | 5.95 |
| 262641ER | USB 2 cable red extension .. Was ~~$5.95~~ | 4.49 |

## Turn your mild-mannered PC into "SuperMod"!

You'll be the life of the LAN party with this see-through sensation! Why settle for a small side-window, when you can show off every square inch of your PC's interior? Kit assembly is easy (and fun!), and the result is an eye-catching desktop masterpiece in clear acrylic. There's plenty of space for your gear: five exposed 5.25" drive bays, seven 3.5" drive bays (two exposed), and five 80mm fan positions. Add your power supply, ATX motherboard, drives, custom lighting, cabling and fans, and you'll be the proud owner of the most unique and classy PC ever!

| Part No. | Description | Price |
|---|---|---|
| 285448ER | Clear ATX computer case | ~~$84.95~~ $79.95 |

## USB-A to Joystick (DB15) Adapter

- Fully compatible with any 15-pin game port PC game controller
- Mode switch selector for maximum compatibility and flexibility
- USB Plug & Play
- Input connector: USB-A male
- Output connector: DB15-pin female connector
- Size: 3.2"L x 2.3"W x 1.3"H

**System requirements:** 586 or higher compatible; available USB-A port or Hub; Windows® 98 or higher

**Includes:** Manual and 3.5" drivers

| Part No. | Description | Price |
|---|---|---|
| 189510ER | USB to game port adapter | ~~$39.95~~ $21.55 |

## USB Front Panel Access Port

Tower not included

Tired of crawling under your desk or standing on your head to plug something into your USB port? With these 3.5" front panel USB access ports, You can enjoy the easy upfront access to all of your USB ports without moving the PC.

- 4 USB; Line-In; Line-Out

| Part No. | Description | Price |
|---|---|---|
| 213532ER | Front panel port | $18.95 |

## Removable HD Rack and Insert

- For quick drive swapping
- Removable storage for 3.5" IDE drive
- Power LEDs
- Keylock for security

**196040ER:**
- Size: 5.8"W x 8.5"D x 1.5"H
- Weight: 1.2 lbs.

**196031ER:** • Size: 4.1"W x 7.5"D x 1.6"H • Wt: 0.8 lbs.

**Includes:** Inner cable with IDE connector

| Part No. | Description | 1 | 10 |
|---|---|---|---|
| 196040ER | IDE rack w/ insert | $27.95 | $20.95 |
| 196031ER | Insert for 196040ER | 19.95 | 16.99 |

## External IDE HDD Enclosure with Parallel Interface

External HDD enclosure for IDE hard drives with a parallel port interface for connecting to a PC or laptop. No drivers needed. Windows® 98 and above will automatically detect hard disk drive.

- Parallel port interface
- Front panel green LED indicator
- On/off power switch
- Built-in fan and 110V power supply

| Part No. | Description | 1 | 5 |
|---|---|---|---|
| 249316ER | HDD external enclosure | $19.95 | $15.95 |

## *Refer a Friend*

*Are you tired of loaning your latest copy of the Jameco catalog to a friend or business associate? If they can't take a hint just visit our website at:* www.Jameco.com/CatReferral. *We'd be happy to send them a catalog too!*

*See pages 76 & 77 for the **latest** and **fastest** Intel® motherboards and processors, Seagate hard drives, and Kingston memory.*

COLOR CODE LEGEND... NEW SALE REFURBISHED CLOSEOUT

## USB Thumb Drives

217795ER

What better way to keep your data safe than to keep it close to you? Thumb drives are compact and fit easily in your pocket or hang it around your neck. Portable and lightweight, no external power needed. No drivers necessary for Windows® ME and above. Windows® 98/98SE drivers available on www.Jameco.com.

• 10 year data retention • Size: 2.9"L x 0.7"W x 0.4"H

| Part No. | Description | 1 | 10 |
|---|---|---|---|
| 217761ER | 32MB ..... ~~$36.45~~ | $24.95 | $22.69 |
| 217779ER | 64MB ..... ~~$46.75~~ | 39.95 | 37.15 |
| 217787ER | 128MB ..... ~~$79.15~~ | 59.95 | 55.95 |
| 217795ER | 512MB ..... ~~$189.95~~ | 159.95 | 145.95 |

## Add USB versatility to your computer with one-step, pocket-sized ease!

Instantly add more USB 1.1 ports to your desktop or notebook computer with this compact, compatible hub. Perfect for your laptop case, it tucks into any available space to provide plug-and-play versatility, on your desk or on the road. Whether you're a PC power user or a Mac fanatic, this hub will seamlessly expand your hardware horizons.

| Part No. | Description | 1 | 5 |
|---|---|---|---|
| 233365ER | 4-Port mini hub ..... ~~$9.95~~ | $8.59 | $7.39 |

## A DC adapter that REALLY adapts!

Replace your lost or faulty wall adapters with this one-stop, all-purpose switching power supply. Simply select from six output voltages (3, 4.5, 6, 7.5, 9 and 12 volts), choose the appropriate polarity, then pick the DC plug that fits the application (8 are supplied). Perfect for travelers, it's lightweight, versatile, and compact!

| Part No. | Description | Price |
|---|---|---|
| 239564ER | Compact travel power supply ..... | $22.95 |

*More @ www.Jameco.com*

## Now you can have a mobile office!

Save up to $30

*BackOffice/Laptrap*

Protect your mobile computer with the BackOffice and Laptrap cases. Mil spec hardware and edge bound seams complement the shock-absorbing foam to protect your precious hardware and data. When arriving at your destination, simply unfold either case and you're ready to get to work. Gotta run? Just fold and go!

*Stylish Vertical Briefcase*

The **BackOffice** includes a shoulder harness and holds computers up to 14"x11"x2". Highly organized pockets can replace your briefcase, allowing you to carry essential office tools together with your computer!

*Harness for Laptrap*

The **Laptrap** is a streamlined version with less pocket/storage space. It includes a padded sleeve that protects computers up to 14"x11"x1-3/4", and flaps for lap use. Optional shoulder harness.

| Part No. | Description | Price |
|---|---|---|
| 261411ER | BackOffice laptop case ..... ~~$149.95~~ | $119.95 |
| 261518ER | Laptrap laptop case ..... ~~$59.95~~ | 49.95 |
| 261569ER | Optional shoulder harness - laptrap ~~$14.95~~ | 11.95 |

## Mobile PDA Pocket Printer

Palm-sized computers and PDAs are great, but printed output can be a challenge. Enter the Pocket Printer with it's internal batteries and wireless IR or serial-cable connections. This miniature wonder puts printer power in your pocket, at an unbeatable price. Now, you can output sharp text and continuous-tone graphics, anywhere and anytime. Everything you need is in the box: paper, serial cable, AC adapter, travel bag and software for popular PDAs and desktops.

| Part No. | Description | Price |
|---|---|---|
| 233357ER | Mobile pocket printer .. *Was ~~$34.95~~* | $29.95 |

## Pocket "secretary" captures all your great ideas.

Once you begin to use this sleek, feature & accessory-packed tapeless recorder, you'll wonder how you ever got along without it. Record up to 396 addressable messages totaling 2 hours (SP) or 4 hours (LP) (model 285499ER) or 9 hours (SP) or 18 hours (LP) (model 237198ER). They can be meetings, phone conversations, and audio from external devices, all in flawless digital clarity. USB connectivity quickly downloads your recordings to your PC. Included accessories: earphone, external (meeting) microphone, telephone adapter, audio cable, PC software, USB cable, and hand strap.

*Includes all the accessories needed!*

| Part No. | Description | Price |
|---|---|---|
| 285499ER | Digital USB voice recorder, 2-4 hrs ..... | $89.95 |
| 237198ER | Digital USB voice recorder, 9-18 hrs ..... | 129.95 |

## Zip, you're wired. Zip, its gone. Disappearing cable trick.

***These thin, flexible cables weigh just half an ounce and roll up like a window shade for manageability!***

Don't you hate lugging those heavy, bulky cables around with your laptop? Now, you don't have to. ZipLinq USB and Firewire cables are as lightweight, thin and flexible as a shoelace, and they store themselves tangle-free in a case the size of a quarter. To connect the cable, take a connector in each hand and pull to the length you need, up to 2-1/2'. Ready to roll? Tug gently, and the cable zips neatly into its case like a window shade.

| Part No. | Description | Price |
|---|---|---|
| 226405ER | Firewire M 4-pin to firewire 4-pin ..... | $11.95 |
| 227424ER | Firewire M 6-pin to firewire 4-pin ..... | 11.95 |
| 227459ER | Firewire M 6-pin to firewire 6-pin ..... | 11.95 |
| 226392ER | USB A to mini USB 5-pin ..... | 9.95 |
| 226384ER | USB A to mini 4-pin ..... | 9.95 |
| 226376ER | USB A M to USB F ..... | 9.95 |
| 226368ER | USB A to USB B ..... | 9.95 |

## Flexible USB Cable and Adapter

FlexUSB™ is a compact, lightweight accessory that bends, rotates, and flexes to your desired angle. It provides a means to position USB devices, allowing you the means to use it with any computer in even the most cramped environment. Its unique ratcheting design makes it possible to position your USB devices that are compatible with both Windows and MAC platforms.

| Part No. | Description | Price |
|---|---|---|
| 262078ER | Flexible USB adapter A M-F ..... | $10.95 |
| 262158ER | Flexible USB cable with A-M to B-M connectors ..... *Was ~~$14.95~~* | 11.95 |

*Flexible USB cables and adapters make plugging in cables an ease, especially in tight spots!*

## USB Cable Extender

- Extends distance between USB devices by up to 16'
- Complies with USB electrical and timing specifications
- Compatible with high and low speed USB devices
- Interface: USB-A male to USB-A female
- Size: (adapter): 2.8"L x 1.5"W x 0.6"H • Wt.: 1.0 lb.

**Includes:** USB-A male to USB-B female cable

| Part No. | Description | 1 | 10 |
|---|---|---|---|
| 191441ER | 16' USB extender — NEW ..... | $29.50 | $26.55 |

## Video conference on the road with this light, flexible camera.

Now you can add video capability to your laptop without the bulk and bother of previous older technology. This USB camera is feather-light, but feature-heavy! The flexible gooseneck mount allows effortless positioning, and its fixed-focus, auto-exposure design means you'll capture great pictures with ease.

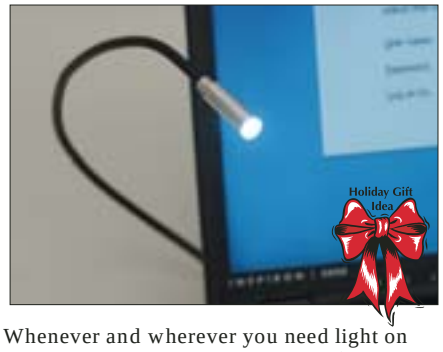
| Part No. | Description | Price |
|---|---|---|
| 262300ER | Mobile USB webcam | $19.95 |

## This is so cool, you'll be its greatest fan!

Because you can't be too rich or too cool, take advantage of a great deal on this innovative personal USB-powered fan for laptop computing! You'll enjoy the added comfort of features like a flexible gooseneck mount, soft nylon blades and quiet motor. No batteries needed; it draws a tiny amount of power from your laptop's battery.

| Part No. | Description | Price |
|---|---|---|
| 256461ER | Mobile USB fan | $8.99 |

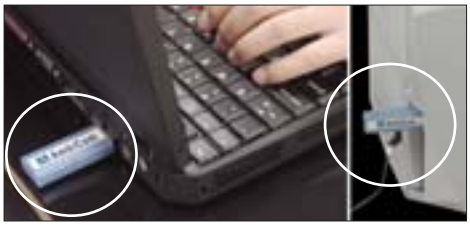
## Light up your laptop and work anytime, anywhere!




Whenever and wherever you need light on your keyboard, this USB-powered, flexible, plug-and-play LED lamp will deliver. Think of the applications! Now, you can discreetly illuminate your keyboard as you navigate your presentations in darkened boardrooms, or work on the plane without disturbing others with overhead lights. Easy, innovative, and economical!

| Part No. | Description | Price |
|---|---|---|
| 256436ER | Mobile USB light | $9.99 |

## Print up to 100 feet away, wirelessly!



*Simply plug one unit into your computer, the other into your printer and you are ready for wireless printing. No more messy cables!*

Convenience and ease-of-use are what the wireless revolution is all about, and this kit will easily make your current printer conveniently cable-free! Now you can place your printer where you want it, not just where the cable will reach. Easy, plug-and-play USB installation means set-up is trouble-free, too. Works with many Canon, Epson, HP and Lexmark printers; and Windows® XP / 2000 / ME / 98 or Mac OS X v10.2.

***For a list of compatible printers visit our website at www.Jameco.com and click on data sheet.***

| Part No. | Description | Price |
|---|---|---|
| 235133ER | Wireless printer kit | $89.95 |

## Burn CDs on the go, with no AC power!

Barely bigger than a CD, this self-contained burner packs a super set of features into a compact, portable package. USB 2.0 lets you write your discs at 8x speed and read at 24x speed. Plus, this mobile unit gets all the power it needs from the computer connection and its built-in rechargeable lithium ion battery pack. Includes USB 2.0 cable, wall charger, Nero video / audio / data mastering software, manual and case. Supported operating systems: Win® 98 SE / ME / 2000 / XP.

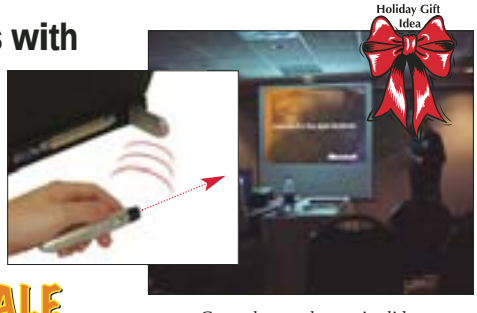
| Part No. | Description | Price |
|---|---|---|
| 243061ER | Portable CD-R/RW drive | ~~$129.95~~ $94.95 |

*Just slightly bigger than a CD-ROM!*

## Put more power in your points with this presentation sensation.

The best presenters know to "keep it simple," and this pen-sized presentation pal is the essence of simplicity. It provides easy, wireless "forward / backward" control of your Power Point slides, and incorporates a laser pointer into its go-anywhere, pen-format design. Bluetooth technology means plug-and-play set-up and solid control from up to 45 feet away!

| Part No. | Description | Price |
|---|---|---|
| 256428ER | Smart pointer presenter | ~~$89.95~~ $59.95 |



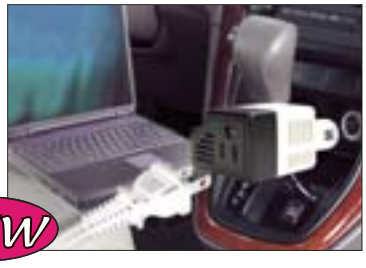

*Control your electronic slides from up to 45 feet away!*

## Run and charge your AC electronics in your car!

Smart AC inverters are perfect for cars, RVs and boats. It's as easy as 1-2-3! Simply plug the inverter into your cigarette lighter socket then plug your appliance into the inverter. No need to have thoes bulky inverters under your seats or dashboards anymore!

- GAC output voltage: 110-115VAC @ 60Hz
- DC input voltage range: 10-15V
- Overload protection, low battery alarm, low battery shutdown

| Part No. | Description | Price |
|---|---|---|
| 307791ER | 75-watt smart AC inverter | $26.95 |
| 307811ER | 150-watt smart AC inverter | 34.95 |




*The smallest 150 watt AC inverter we have seen!*

COLOR CODE LEGEND... NEW SALE REFURBISHED CLOSEOUT

*XM Satellite Base Receiver 226157EX*

**"…XM Radio is a service I can wholeheartedly recommend."**
**—Walter Mossberg, The Wall Street Journal**

SALE

Save $40

*Just 1.5" thick!*

*Dock it in your home.*

| Part No. | Description | Price |
|---|---|---|
| 226157ER | Radio base receiver & remote ~~$114.95~~ | $74.95 |
| | 2-15/16"H x 4-11/16"W x 1-1/2"D. Requires docking station to produce sound. | |
| 226181ER | Home docking kit ~~$64.95~~ | 59.95 |
| | Includes dock, AC power cord, antenna, and audio cable with twin RCA output jacks. | |

** XM Radio subscription currently priced at $9.95/mo. Sign up via the Web or by calling toll-free once you get your new receiver. Receive complete audio instructions via the receiver. Receiver produces sound only with a docking station.*

## Satellite radio with 100 crystal clear channels that follow you everywhere; most commercial free!

Imagine being able to choose from 100 channels of music, broadcast news, sports and talk radio…and taking them everywhere you go. With the Delphi XM SKYFi Satellite Radio system and a subscription to XM Satellite Radio*, you'll enjoy 100 channels of entertainment, 35 of them commercial-free, anytime, anywhere.

**What do I need?**
With this ingenious, modular system, the "brains" are contained in a palm-sized wireless base receiver small enough to slip into your pocket (#226157ER). Just buy one base receiver and use it in compatible docking station, wherever the location. Plug the Home Dock into the audio input jacks of your home or office stereo. **Just slip the receiver into a dock...**

...and 100 crisp, clear satellite stations, including up to 20 of your favorite presets, are yours at the touch of a button. The receiver's 5-line electric-orange display shows the currently playing song, artist, and more. You can even see what's playing on other channels before you switch. Narrow your search by category for fast navigation. Or use the jog-wheel to scroll through all the channels. Includes remote for the ultimate in home or office listening.

**The XM Satellite Radio Broadcast System's** signal is beamed from two huge earth-station antennas to its broadcast satellites 22,000 miles above the earth. Ground antennas, or repeaters, boost the signal around geographical and architectural obstacles. In fact, the quality of the XM signal is so good, Popular Science rated it "superb, with good dynamics, crisp frequency response and virtually inaudible distortion." Non-commercial programming for XM Radio is produced at the company's 150,000 square foot broadcast centers in Washington DC, Nashville, and Manhattan. The facilities include 82 studios, 20 production suites, 310 audio workstations and an unsurpassed library of digital recordings.

## Retro-style record player with 21st century technology!

Save $70

Holiday Gift Idea

SALE

Dust off those old LPs and 45s, and get ready for a nostalgic trip to entertainment yesteryear! Lift the cover and spin your vinyl, or pop the top and play your favorite CDs in the same self-contained, stylish table-top package. Plus, a sensitive AM/FM tuner, complete with old-school controls, pulls in your favorite talk and music stations. Makes a great gift for the "cat's meow" in your life, or an elegant addition to any room's décor!

| Part No. | Description | Price |
|---|---|---|
| 285472ER | Turntable CD/record player with AM/FM tuner ~~$169.95~~ | $99.99 |

***Over 99% of our products are in stock!***

SALE

Save $20

*Includes spare covers for the detachable speakers, plus a handy remote.*

Holiday Gift Idea

## Stereo boasts big sound, sleek lines, and even runs on batteries for the patio.

***This handsome, all-in-one multimedia stereo creates a "true wall of sound" in your home or office.***

This elegantly designed Sanyo stereo system fulfills your audio and aesthetic dreams. You get a stereo amplifier, CD player, cassette deck, digital AM/FM tuner, alarm clock, and two high-quality speakers sculpted into an elegantly sleek work of art.
Mount the entire system on the wall for a zero-footprint solution or on a table-top. Leave the speakers attached, or place them up to 12 feet apart for stereo separation. Fill any bedroom, living room, kitchen, bath, office or patio with rich sound.

The large backlit display and 20-key remote-control provides control of the entire system from the comfort of your bed or sofa. Preset as many as 20 FM and 10 AM stations. Wake to your favorite radio program, CD or tape. Includes base/treble control and headphone jack.

| Part No. | Description | Price |
|---|---|---|
| 211318ER | Sanyo slim-profile zero footprint stereo ..... Was ~~$99.95~~ | $79.95 |

## Introducing REALLY remote control!

NEW

Holiday Gift Idea

***Now you can control your stereo system, home theater, virtually ANY components that use IR remotes, from virtually any room in your house!***

This matched transmitter/receiver set detects commands from your original remote, converts them to RF and sends them up to 150 feet to give you total control of your system. Think of the possibilities... Surf your CD collection in the basement from your bedroom, change channels on a shared-room video setup, you name it! Installs in minutes, for easy, trouble-free control.

| Part No. | Description | Price |
|---|---|---|
| 307740ER | Remote control extender | $35.95 |

***Don't forget to check out Jameco's pick for holiday gift ideas — Look for the Red Bow!***

## See only the controls you need, for each of 8 separate devices!

Save $10

SALE

***All remotes change channels, but this one changes itself!***

The Kameleon 8 revolutionizes remote control as it simplifies your leisure life. Forget the maze of confusing buttons and complicated keystrokes that make some universal remotes a burden. With a touch, this unique controller transforms itself into the perfect remote for each of your components. For example, choose to control your DVD player, and the cool backlit Kameleon 8 display shows only DVD controls. And it offers the same easy, crystal-clear functionality for up to 8 devices.

Pre-programmed with the world's largest code library, this super remote even guides you interactively through its quick and painless set-up routine. Whatever your remote control needs, the Kameleon 8 will be a change for the better.

| Part No. | Description | Price |
|---|---|---|
| 235521ER | Kameleon 8™ universal remote control | ~~$89.95~~ $79.95 |

SALE

## Star Trek™ fans rejoice!

Holiday Gift Idea

Now you can control up to 4 home theater devices with this realistic replica from the original spaced-out series. Distinctive light and sound effects will accompany your IR commands as you zap your way through the universe of video entertainment. Order now, and enter the next generation of remote control!

| Part No. | Description | Price |
|---|---|---|
| 236030ER | Phaser universal remote | ~~$39.95~~ $34.95 |

## Enjoy a clearer signal & more stations with Phillips® antenna.

Most antennas are big or ugly, maybe even both! Many of the antennas out there are highly directional – so they get in the way when you orient them for best performance. But Phillips® packs a potent punch in a small package. This sleek package houses an omni-directional, powered FM antenna. It's miniature amplifier boosts weak signals so you can actually enjoy previously unlistenable, distant stations. You'll hear dramatically improved reception on both AM and FM bands, from a stylishly small device that hides on any shelf or can be mounted on any wall. Easily installs into any stereo. Includes one 75Ω to 75Ω and one 75Ω to 300Ω matching transformer.

| Part No. | Description | Price |
|---|---|---|
| 235011ER | Phillips® AM/FM stereo antenna | $11.95 |

Special Purchase

***More Products @ www.Jameco.com***

## Expandable, great-sounding portable MP3 enjoyment, made affordable from Samsung!

SALE

Holiday Gift Idea

Save $30

An economical digital music player with top-of-the-line features is now within reach of any budget. This lightweight, compact 64-megabyte player delivers 60 minutes of your favorite tunes, enhanced by a built-in equalizer with 4 custom presets. This pocket-sized powerhouse features a SmartMedia slot for easy expansion, a backlit display and fast USB connectivity, all at an absolutely unbeatable price.

| Part No. | Description | Price |
|---|---|---|
| 235459ER | Samsung YEPP MP3 player | ~~$69.95~~ $39.95 |

## TV Wall Mounts

A convenient way to save floor space and provide viewing pleasure for all. These TV wall mounts are of durable, quality construction. Cable management system keeps unsightly cables and cords out of sight. Tilts at the base up to 10 degrees and rotates up to 140 degrees in either direction. Includes mounting hardware and safety straps.

**285915ER:** for small 9" to 13" TV's; holds up to 60 lbs.
**285923ER:** for medium 19" to 21" TV's; holds up to 75 lbs.
**285940ER:** for large 25" to 27" TV's; holds up to 125 lbs.

| Part No. | Description | Price |
|---|---|---|
| 285915ER | Small TV mount | $61.95 |
| 285923ER | Medium TV mount | 79.95 |
| 285940ER | Large TV mount | 92.95 |

## FM Dipole Antenna

This dipole antenna is your answer to a clearer, improved FM reception. This economical antenna is constructed of twin 300 ohm lead cables and the ends are terminated in plastic tabs for easy mounting to the back of your stereo or to the wall.

| Part No. | Description | Price |
|---|---|---|
| 285827ER | FM dipole antenna | $2.29 |

## Rabbit Ears

Panasonic type dipole antenna.
Fits most TV receivers.
Retractable antenna.

| Part No. | Description | Price |
|---|---|---|
| 285801ER | Rabbit ears | $4.49 |

COLOR CODE LEGEND... NEW SALE REFURBISHED CLOSEOUT

Channel Master

## Advantage Series Outdoor Antennas

Channel Master created the Advantage Series antennas with ease of use and installation in mind! Superior performance, economical pricing, and pre-assembled for ease of installation make this antenna line the perfect choice for the Do-It-Yourselfer. HDTV digital compatible.

286846ER

286811ER

286838ER

286871ER

| Model No. | Recept. Range (miles) VHF/FM | UHF | Dimensions (L" x W" x H") | Tuning Radius | No. of Elem. |
|---|---|---|---|---|---|
| 3014 | 25 | 15 | 53 x 84 x 2 | 40" | 15 |
| 3016 | 45 | 30 | 66 x 84 x 22 | 41" | 24 |
| 2001 | 45 | 30 | 27 x 85 x 3 | 44" | 10 |
| 3018 | 60 | 40 | 113 x 95 x 22 | 78" | 38 |

| Part No. | Model No. | Price |
|---|---|---|
| 286846ER | 3014 | $34.95 |
| 286811ER | 3016 | 47.95 |
| 286871ER | 2001 | 23.95 |
| 286838ER | 3018 | 79.95 |

## Mounts and Mounting Hardware

286037ER

285851ER

285878ER

285860ER

285886ER

295638ER

296809ER

296850ER

297713ER

**286037ER**: 5ft. x 1-1/4" diameter steel mast,18GA, powder coat paint

**285851ER**: 6" heavy duty wall mount; up to 1-1/2" masts; lag bolts included

**285878ER**: Universal "J" pipe roof/wall mount; 38"L

**285860ER**: Universal saddle TV mass mount; up to 1-1/4" to 1-1/2" masts

**285886ER**: Heavy duty tripod mount; 3ft. 1-1/4" diameter legs; up to 1-3/4" diameter mast

**285991ER**: Pitch pad and lag bolt kit for tripod mount (P/N 285886ER); includes 3 pitch pads and 6pcs. 2" x 1/4" lag bolts

**295638ER**: For 1/2" to 1" Dia. pipe

**296850ER296809ER**: Sealant for external connectors

**297713ER**: For satellite installation

| Part No. | Prod. No. | Description | Price |
|---|---|---|---|
| 286037ER | 1807 | 5ft. steel mast | $5.99 |
| 285851ER | 9032 | TV mast wall mount | 9.95 |
| 285878ER | 3009 | Universal roof/wall mount | 26.55 |
| 285860ER | 9039 | Saddle TV mast mount | 7.99 |
| 285886ER | 9003 | Tripod mount | 24.95 |

*Log on today! www.Jameco.com*

| Part No. | Prod. No. | Description | Price |
|---|---|---|---|
| 285991ER | 9139 | Pitch pad and bolt kit* | $3.95 |
| 295638ER | – | Grounding strap | .79 |
| 296809ER | – | 8AWG grounding wire, 25' | 2.99 |
| 296850ER | – | Silicon sealant | .49 |
| 297713ER | – | Compass for satellite installation | .99 |

* For P/N 285886

## Run home improvement and entertainment flatwire cables anywhere, invisibly!

This invisible innovation is a dream come true for do-it-yourselfers and home technology contractors! Just measure the length, peel the self-adhesive backing, and run these super-flat wires along walls, floors, under carpeting or behind molding! On finished walls, just smooth on a little spackle and paint for an amazing wiring installation that's typically only a few hundredths of an inch thick.

### Specifications With White Backing

| Part No. | | Wire | Gauge | Width (in.) | Thick (in.) | Max Curr. | Typical App. | Length (feet) | Price |
|---|---|---|---|---|---|---|---|---|---|
| 263353ER | | 8 | 16 | 0.75 | 0.25 | 13.0A | High wattage audio & lighting | 25 | $45.95 |
| 263311ER | | | | | | | | 100 | 159.95 |
| 263370ER | | 2 | 18 | 0.75 | 0.011 | 10.0A | Speaker, alarm sirens, low voltage lighting | 25 | 31.35 |
| 263361ER | | | | | | | | 100 | 108.95 |
| 263396ER | | 4 | 18 | 1.25 | 0.011 | 10.0A | Indoor or outdoor pairs for two speakers | 25 | 44.55 |
| 263388ER | | | | | | | | 100 | 154.95 |
| 263417ER | | 2 | 75Ω | 0.5 | 0.05 | N/A | 75Ω video coax for cable TV, video & CCTV | 25 | 41.95 |
| 263409ER | | | | | | | | 100 | 145.95 |
| 263450ER | | 8 | 24 | 0.75 | 0.05 | 3.7A | 4 pair UTP for 100 base, TX, Cat5 or phone | 25 | 59.49 |
| 263433ER | | | | | | | | 100 | 205.95 |

### *Connectors*

Compatible connectors for all your flatwire needs.

| Part No. | Description | 1 | 10 |
|---|---|---|---|
| 265404ER | 2 contact terminal for all flatwire | $.75 | $.65 |
| 213031ER | RJ45 jack for P/N 263450ER/263433ER | 3.29 | 2.99 |
| 71984ER | RJ11 jack for P/N 263450ER/263433ER | 1.39 | 1.19 |

265404ER

213031ER

71984ER

## Remote Control Antenna Rotator

A Channel Master rotator is a mast-mounted, motor-driven device that permits the TV viewer to conveniently rotate the outdoor antenna in any direction to optimize TV reception.

- Compatible with most remote controls incl. satellite
- Rotation: 1 RPM • 69-channel programmable mem.
- Non-volatile mem. holds locations during power failure
- Direct access via TV channel number of digital compass location

| Part No. | Prod. No. | Description | Price |
|---|---|---|---|
| 286803ER | 9521A | Antenna rotator system | $81.95 |

## 75/300Ω Matching Transformers

75/300Ω impedance matching baluns. Bandwidth 5-900MHz UHF-VHF-FM. Gold with protective boot.

285211ER

| Part No. | Prod. No. | Description | Price |
|---|---|---|---|
| 285253ER | 200-490 | Indoor-outdoor balun | $1.99 |
| 285211ER | 200-505 | Indoor balun | 1.49 |

## Grounding Blocks

Used in CATV and satellite subscribe grounding.

| Part No. | Prod. No. | Description | Price |
|---|---|---|---|
| 285229ER | 200-217 | F 900 MHz single ground | $1.99 |
| 295831ER | — | 2.4 MHz dual ground | 2.05 |

## 900MHz MATV Splitters

285165ER

5-900MHz, 75Ω MATV low-cost gold F splitter suitable for consumer MATV applications. DC power passing.

| Part No. | Prod. No. | Description | Price |
|---|---|---|---|
| 285165ER | 200-212 | 2-way | $3.75 |
| 285181ER | 200-213 | 3-way | 4.69 |
| 285190ER | 200-214 | 4-way | 5.69 |

*Log on today! www.Jameco.com*

## In-Line Amplifier

This amplifier will reduce or eliminate the signal losses caused by signal transformers, signal splitters, other in-line devices, or long cables that run between the antenna and receiver system. Amplifies virtually any satellite, TV, or radio signal from 50 MHz to 2,200MHz.

- Input capability: 83dB uV min. (7-channel inputs)

| Part No. | Description | Price |
|---|---|---|
| 286053ER | In-line amplifier | $19.95 |

## Broadband Amplifiers

285237ER

- UHF/VHF/FM • Imped.: 75Ω
- Low noise, heavy gauge shielded case
- 117VAC @ 60Hz power source
- Bandwidth: 54-890MHz
- Size: 3.5"W x 1.5"H x 2.3"D

**285237ER**: 6dB 2-output; VHF gain: 6dB; UHF gain: 2dB; flatness response: ±2dB
**285245ER**: 3dB 4-output; VHF gain: 3dB; UHF gain: 0dB; flatness response: ±2dB

| Part No. | Prod. No. | Description | Price |
|---|---|---|---|
| 285237ER | 200-652 | 2-output broadband amplifier | $23.69 |
| 285245ER | 200-700 | 4-output broadband amplifier | 28.45 |

## Channel Master Satellite IF-VHF/UHF Diplexers

286133ER

286150ER

286918ER

These diplexers are used for separating or combining satellite signals, at 950-1250MHz with VHF/UHF signals at 54-806MHz. They include a high pass filter tuned to 950-2150MHz and low pass filter tuned to 54-806MHz. In addition, a DC power pass is provided from the satellite port to the common in order to pass satellite receiver LNB voltage. The power pass feature passes DC through 22kHz for polarization and satellite selection commands using 13/18V, 22 kHz.

- Impedance: 75 Ω
- Type F female connectors

| Part No. | Prod. No. | Description | Price |
|---|---|---|---|
| 286133ER | 4001IFD | Separating (1 inp. VHF/UHF; SAT out.) | $9.95 |
| 286150ER | 4002IFD | Combining (1 out. VHF/UHF; SAT inp.) | 17.95 |
| 286168ER | 4022IFD | Dual comb. (2 out. VHF/UHF; 2 SAT inp.) | 29.95 |
| 286918ER | 4032IFD | Dual comb. (2 out.; 1 VHF/UHF inp.; 1 SAT inp.; DC pass) | 23.95 |

## Channel Master Dual Satellite Diplexer Amplified VHF/UHF

The complete one box solution to provide satellite and amplified VHF/UHF signals to two locations in a building from twin LNB and off-air antenna! The two high performance diplexers eliminate UHF LNB noise and any off-air pick-up at satellite frequencies. The VHF/UHF preamplifier is a split-band type and includes FM trapping.

- Impedance: 75 Ω
- Type F female connector
- Noise figure: VHF 3.5dB, UHF 2.5dB
- Size: 1.9"H x 2.5"W x 0.8"D
- Inputs: 3 (LNB A, LNB B, VHF/UHF)
- Outputs: 2 (SAT A & B – VHF/UHF)

| Part No. | Prod. No. | Description | Price |
|---|---|---|---|
| 286117ER | 4007IFD | Dual satellite diplexer | $59.95 |

## Channel Master Satellite IF Multiswitches

Channel Master's lowest cost multiswitches supply LNB power from the satellite receivers. Intended for use in systems when 117VAC is not available at the distribution point where it is desired to locate a multiswitch, making these units ideal. Includes a VHF/UHF amplifier. As such, at least one satellite receiver must be connected to pass VHF/UHF signals.

- 75Ω impedance
- Type F female connector
- Insertion loss: 5dB
- Noise figure: 7dB
- Satellite input frequency range (MHz): 950-1250
- Isolation cross polarization (output to opposite polarity input): 32
- Maximum input (dBm, per transponder): -23
- LNB voltage: (nominal 13V, >12V into any output): 11.2
- Size: 6.4"H x 4.2"W x 1.2"D

| Part No. | Prod. No. | Description | Price |
|---|---|---|---|
| 286934ER | 6344IFD | Active VHF/UHF | $79.95 |

## StealthTenna™ Antenna

Optimized for receiving HDTV/Digital and current analog signals, the StealthTenna™ offers the performance and aesthetics consumers demand for their ever-changing reception needs. Antenna assembles easily for do-it-yourself installation. The StealthTenna™ is the perfect complement to DBS satellite systems for receiving local broadcast not offered from satellite. The antenna mounts under eaves with it's rear-mounting feature or may be mounted in traditional roof, chimney, wall and attic configurations. For additional signal gain, StealthTenna™ can be equipped with an optional amplifier (listed below) that fits easily inside the antenna housing. The amplifier utilizes separate circuitry for VHF and UHF amplification, providing a gain of 15 dB. Mounts inside antenna housing and has split band amplification.

- Signal gain: 15dB UHF; 15dB VHF/FM
- Power required: 12 to 22VDC

| Part No. | Prod. No. | Description | Price |
|---|---|---|---|
| 285843ER | 3010 | StealthTenna™ | $68.95 |
| 285982ER | 3038 | Optional amp. | 48.95 |

## Decorator Style Wallplates

285392ER

285405ER

285350ER

285325ER

285270ER

285309ER

Single gang decorator-style flush plates mounted in standard electrical boxes. High-impact ABS plastic mounting bracket supplied with matching color screws.

**RJ-11 jack and gold F-type coupler** • 6 micro gold plated contacts

| Part No. | Prod. No. | Description | 1 | 5 |
|---|---|---|---|---|
| 285392ER | 300-103WH | White plate | $3.29 | $3.15 |
| 285384ER | 300-103IV | Ivory plate | 3.29 | 3.15 |

**3-RCA connectors (Yellow-Red-Black) with insulators, gold plated**

| | | | | |
|---|---|---|---|---|
| 285413ER | 200-260WH | White plate | $5.99 | $5.49 |
| 285405ER | 200-260IV | Ivory plate | 5.99 | 5.49 |

**F-type gold coupler, 75Ω**

| | | | | |
|---|---|---|---|---|
| 285350ER | 200-253WH | White plate, single | $3.39 | $2.95 |
| 285341ER | 200-253IV | Ivory plate, single | 3.59 | 3.39 |
| 285376ER | 200-255WH | White plate, dual | 4.19 | 3.95 |
| 285368ER | 200-255IV | Ivory plate, dual | 4.19 | 3.95 |

**Standard RJ-11 and F-type coupler**

| | | | | |
|---|---|---|---|---|
| 285325ER | 300-234WH | White plate | $2.35 | $2.29 |
| 285317ER | 300-234IV | Ivory plate | 2.35 | 2.29 |

**Standard F-type coupler, 75Ω**

| | | | | |
|---|---|---|---|---|
| 285288ER | 200-251WH | White plate, single | $1.95 | $1.85 |
| 285270ER | 200-251IV | Ivory plate, single | 1.95 | 1.85 |
| 285309ER | 200-252WH | White plate, dual | 2.89 | 2.75 |
| 285296ER | 200-252IV | Ivory plate, dual | 2.89 | 2.75 |

COLOR CODE LEGEND... NEW SALE REFURBISHED CLOSEOUT

## Audio/Video Adapters and Cables

### RCA Audio Adapters and Y-Cable

| Part No. | Description | 1 | 10 |
|---|---|---|---|
| 228283ER | RCA **F** jack to mono 1/4" **M** plug | $.99 | $.89 |
| 228312ER | RCA **M** plug to 1/4" mono **F** jack | 1.25 | 1.10 |
| 228267ER | RCA **F** to **F** jack coupler, gold plated | .95 | .79 |
| 159441ER | RCA **F** to **F** jack coupler | 1.15 | .99 |
| 228259ER | RCA **M** to **M** plug adapter | 1.59 | 1.25 |
| 228339ER | RCA **F** jack to 3.5mm mono **M** plug, gold plated | 1.49 | 1.29 |
| 228291ER | RCA **F** jack to 3.5mm mono **M** plug, nickel plated | 1.25 | 1.09 |
| 215458ER | RCA **M** plug to 3.5mm mono **F** jack | .89 | .75 |
| 196808ER | 5" Y-cable 1/8" stereo **F** jack to (2) RCA **M** plugs | .75 | .30 |
| 139037ER | 5' Y-cable 1/8" stereo **M** plug to (2) RCA **M** plugs | 2.25 | 1.99 |
| 228401ER | 6' Y-cable (2) RCA **M** plugs to 3.5mm stereo **M** plug | 1.55 | 1.39 |
| 228371ER | 6" Y-cable (2) RCA **M** plugs to RCA **F** jack | .99 | .89 |
| 228355ER | 6" Y-cable RCA **M** plug to (2) RCA **F** jacks | 1.29 | 1.15 |
| 228380ER | 6" Y-cable (2) RCA **F** jacks to 3.5mm stereo plug | 1.95 | 1.76 |
| 215466ER | 8" Y-cable RCA **M** plug to (2) RCA **M** plugs | 2.25 | 2.04 |

### RCA Cables

| Part No. | Description | 1 | 10 |
|---|---|---|---|
| 215474ER | 3' RCA **M** plug – **F** jack (gray) | $.89 | $.79 |
| 228443ER | 3' stereo RCA (2) **M** to (2) **M** plugs, gold plated | 1.49 | 1.39 |
| 183311ER | 4' RCA **M** to **M** plug (black) | .99 | .89 |
| 206973ER | 4' RCA **M** to **M** plug (yellow) | .99 | .89 |
| 183302ER | 4' RCA (2) **M** to (2) **M** plugs (red/black) | 1.75 | 1.45 |
| 106374ER | 6' RCA **M** to **M** plug | 1.19 | 1.00 |
| 228419ER | 6' mono RCA **M** plug to **F** jack | 1.65 | 1.45 |
| 228486ER | 6' RCA stereo (2) **M** plugs to (2) **F** jacks | 1.25 | 1.15 |
| 228451ER | 6' RCA stereo (2) **M** to (2) **M** plugs, gold plated | 1.79 | 1.69 |
| 184882ER | 6' RCA (3) **M** to (3) **M** plugs, low loss | 1.95 | 1.79 |
| 228427ER | 10' RCA **F** jack to **M** plug | 2.35 | 1.95 |
| 29348ER | 10' RCA **M** to **M** plug (yellow) | 1.69 | 1.44 |
| 228460ER | 12' RCA stereo (2) **M** to (2) **M** plugs, gold plated | 2.10 | 1.89 |
| 225980ER | 12' RCA (3) **M** to (3) **M** plugs, gold plated | 4.49 | 3.89 |
| 225998ER | 20' RCA (3) **M** to (3) **M** plugs, gold plated | 7.99 | 6.79 |
| 228435ER | 25' mono RCA **M** to **M** plug, nickel plated | 2.19 | 2.09 |
| 228478ER | 25' RCA stereo (2) **M** to (2) **M** plugs, gold plated | 2.39 | 2.29 |

***Celebrating 30 years of commitment to the Best Values from around the world.***

***www.Jameco.com — Quality Components for Less.***

### 3.5mm Audio Adapters and Y-Cable

✳ Prepackaged: please order in increments of 10

| Part No. | Description | 1 | 10 |
|---|---|---|---|
| 228275ER | 3.5mm stereo **F** to **F** jack | $.55 | $.49 |
| 215440ER | 3.5mm mono **F** jack to 1/4" mono **M** plug | ✳ | .15 |
| 196082ER | 3.5mm stereo **F** jack to 1/4" stereo **M** plug | .59 | .49 |
| 228304ER | 3.5mm stereo **M** plug to (2) 1/4" stereo **F** jacks | 2.05 | 1.85 |
| 228339ER | 3.5mm mono **M** plug to RCA **F** jack, gold plated | 1.49 | 1.29 |
| 228291ER | 3.5mm mono **M** plug to RCA **F** jack, nickel plated | 1.25 | 1.09 |
| 215458ER | 3.5mm mono **F** jack to RCA **M** plug | .89 | .75 |
| 196808ER | 5" Y-cable 1/8" stereo **F** jack to (2) RCA **M** plugs | .75 | .30 |
| 139037ER | 5' Y-cable 1/8" stereo **M** plug to (2) RCA **M** plugs | 2.25 | 1.99 |
| 228398ER | 6" Y-cable (2) 3.5mm stereo **F** jacks to 3.5mm stereo **M** plugs | 1.95 | 1.65 |
| 228401ER | 6' Y-cable (2) RCA **M** plugs to 3.5mm stereo **M** plug | 1.55 | 1.39 |
| 228380ER | 6" Y-cable (2) RCA **F** jacks to 3.5mm stereo plug | 1.95 | 1.76 |

### S-Video Adapters and Cables

**228558ER/228566ER:** 95% spiral wound shield S-VHS/audio conductors

| Part No. | Description | 1 | 10 |
|---|---|---|---|
| 229809ER | S-video 4-pin mini DIN **F** to **F** jack | $2.85 | $2.59 |
| 229391ER | S-video **M** plug to RCA video **F** jack | 5.39 | 4.85 |
| 295881ER | S-video **F** to RCA **M** | 5.39 | 4.85 |
| 303351ER | S-video **M** plug to RCA jack | 5.29 | 4.99 |
| 228591ER | 6' S-VHS cable, gold plated | 2.15 | 1.95 |
| 228558ER | 6' S-VHS audio-video cable, gold plated | 12.95 | 11.65 |
| 228566ER | 12' S-VHS audio-video cable, gold plated | 14.95 | 13.45 |
| 228603ER | 12' S-VHS cable, gold plated | 2.65 | 2.35 |
| 228611ER | 25' S-VHS cable, gold plated | 4.05 | 3.85 |

### Video/Audio Patch Cables

| | | | |
|---|---|---|---|
| 228216ER | 3' stereo video patch cable, gold plated | $1.19 | $1.13 |
| 228574ER | 25' stereo video patch cable, gold plated | 6.99 | 6.29 |
| 228582ER | 50' stereo video patch cable, gold plated | 12.59 | 11.35 |

### VCR Cable

| | | | |
|---|---|---|---|
| 228224ER | 6' stereo VCR cable | $2.39 | $2.29 |

### 3.5mm Audio Patch Cables

| | | | |
|---|---|---|---|
| 228494ER | 6' 3.5mm stereo **M** to **M** plug | $1.39 | $1.19 |
| 228515ER | 6' 3.5mm stereo **M** plug to **F** jack | 1.49 | 1.35 |
| 228507ER | 12' 3.5mm stereo **M** to **M** plug | 1.69 | 1.49 |
| 228523ER | 12' 3.5mm stereo **M** plug to **F** jack | 1.65 | 1.49 |

***Over 99% of our products are in stock! Place your order by 6PM EST for same business day shipment. 1-800-455-6119 www.Jameco.com***

## Digital Audio Optical Cables and Adapters

228654ER

228689ER

230615ER

230607ER

Connect your DVD, CD, Mini Disc, DAT, game console or other digital audio equipment for clear, full and richly detailed sound. For the ultimate listening experience, connect to your Dolby Digital® or DTS® home theater equipment. These cost effective performance TOSLINK type cables give you the cleanest possible signal, even at extreme volume levels.

- Low-loss core provides low distortion and high signal-to-noise ratio
- Clad reflecting layer prevents phase error and noise, achieving high-fidelity transmission effect
- Corrosion-resistant, precise collar to ensure long lasting quality
- Non-slip rubber grip connector provides for easy installation
- Ultra flexible PVC jacket makes installation, even in hard to reach areas a snap

### *Cables*

| Part No. | Description | 1 | 2 | 5 |
|---|---|---|---|---|
| 228654ER | 3' TOSLINK–TOSLINK | $3.79 | $3.35 | $2.85 |
| 228689ER | 3' TOSLINK–mini plug | 9.95 | 8.95 | 7.95 |
| 228662ER | 6' TOSLINK–TOSLINK | 4.75 | 4.29 | 3.79 |
| 228697ER | 6' TOSLINK–mini plug | 16.65 | 14.99 | 13.49 |
| 228671ER | 12' TOSLINK-TOSLINK | 7.29 | 6.59 | 5.95 |
| 228700ER | 12' TOSLINK–mini plug | 23.29 | 20.95 | 18.85 |

### *Adapters*

| Part No. | Description | 1 | 2 | 5 |
|---|---|---|---|---|
| 230615ER | TOSLINK – mini plug adapter | $2.79 | $2.59 | $2.49 |
| 230607ER | TOSLINK – TOSLINK coupler | 1.89 | 1.79 | 1.69 |

## Component Video and Audio Cables

Component video cables connect the latest video equipment like DVD players equipped with component video output jacks to LCD or plasma televisions, projectors and other component video devices. By using component video cables, you bypass the TV's Y/C separator and color decoder, routing the color (Y Pr Pb) information directly into the TV's matrix decoder.

228638ER

229403ER

- Low-loss 75Ω oxygen-free copper center conductors and foam dielectric provide maximum signal transfer bandwidth for improved picture quality and performance
- Corrosion resistant, precise 24k gold-plated connectors ensure long lasting quality
- Fully molded color coded connectors attached to an ultra-flexible PVC jacket provides excellent strain relief, easy installation, and identification
- 100%, .012mm aluminum-polyester foil shielding and spiral-wound copper-braid shielding provides clear, noise-free, vivid picture quality
- Bonded construction design for neat, easy connection of component video and audio

| Part No. | Description | 1 | 2 | 5 |
|---|---|---|---|---|
| 228620ER | 6' component video RGB cable | $12.35 | $11.15 | $9.99 |
| 228638ER | 12' component video RGB cable | 23.75 | 21.39 | 19.25 |
| 228646ER | 25' component video RGB cable | 33.95 | 30.59 | 27.49 |
| 229403ER | 6' component video RGB and stereo audio cable | 17.29 | 15.59 | 13.99 |
| 229411ER | 12' component video RGB and stereo audio cable | 33.25 | 29.95 | 26.95 |
| 229420ER | 25' component video RGB and stereo audio cable | 47.55 | 42.79 | 38.55 |

## 3.5mm Female Jacks and Male Plugs

109495ER

101151ER

165729ER

231167ER

- Threaded screw on housing
- 1mm diameter solder eyelets
- Shield crimp tabs

**231159ER/231167ER:** With spring strain reliefs

| Part No. | Mfr. Cross Ref. | Description | 1 | 10 |
|---|---|---|---|---|
| 109495ER | PJ035PM | Mono female jack 3.5mm hole size | $.45 | $.40 |
| 165729ER | PJ0354 | Mono female jack 3.5mm hole size | .69 | .59 |
| 101151ER | PJ1035 | Mono male plug, plastic | .55 | .43 |
| 147344ER | PJ1035L | Mono male plug, plastic | .55 | .43 |
| 231159ER | AP-336 | Mono male plug, metal | 1.25 | 1.19 |
| 231175ER | AP-340 | Stereo male plug, plastic | .55 | .43 |
| 231167ER | AP-343 | Stereo male plug, metal | 1.79 | 1.60 |

## RCA Plugs

- High-quality plastic and metal housing RCA plugs

| Part No. | Description | 1 | 10 |
|---|---|---|---|
| 229876ER | Black | $1.89 | $1.69 |
| 229868ER | Red | 1.89 | 1.69 |
| 229884ER | White | 1.89 | 1.69 |
| 230287ER | Yellow | 1.89 | 1.69 |
| ***Plastic screw on cover w/ integral cable protection*** | | | |
| 229921ER | Black (5 pk) | $1.15 | $1.05 |
| 229930ER | Red (5 pk) | 1.15 | 1.05 |
| 229913ER | White (5 pk) | 1.19 | 1.09 |
| 229892ER | Yellow (5 pk) | 1.19 | 1.09 |

229876ER

229930ER

## RCA Jacks

- P/N 237016ER: 2x3 grid; † Red/white/yellow

| Part No. | Description | Color | 1 | 10 |
|---|---|---|---|---|
| 237016ER | 2.0"W x .45"D x 1.1"H | † | $.89 | $.79 |
| 220581ER | .44"W x .56"D x .48"H | White | .45 | .31 |
| 220556ER | .44"W x .56"D x .48"H | Red | .45 | .31 |
| 220572ER | .44"W x .56"D x .48"H | Black | .45 | .31 |
| 220564ER | .44"W x .56"D x .48"H | Yellow | .45 | .31 |
| 112475ER | .44"W x .58"D x .48"H | Red | .39 | .35 |
| 169501ER | .40"W x .85"D x .50"H | Black | .39 | .35 |
| 159484ER | .84"W x .38"H | Black | .49 | .39 |
| 172339ER | .84"W x .38"H | Red | .49 | .39 |

237016ER

220556ER

220572ER

169501ER

172339ER

159484ER

## 75Ω F Connectors

289828ER

289924ER

290001ER

291531ER

| Part No. | Type | Description | 1 | 10 |
|---|---|---|---|---|
| 289828ER | RG-59 | Crimp-on nickel plated | $.22 | $.20 |
| 289908ER | RG-59 | Crimp-on gold plated | .45 | .43 |
| 289887ER | RG-6 | Crimp-on nickel plated | .22 | .20 |
| 289916ER | RG-6 | Crimp-on gold plated | .45 | .43 |
| 289975ER | RG-59 | Twist-on nickel plated | .79 | .69 |
| 290001ER | RG-6 | Twist-on nickel plated | .79 | .69 |
| 289924ER | RG-6 | Crimp-on weatherproof seal | .69 | .59 |
| 291531ER | RG-59 | Perma seal | .69 | .59 |
| 291581ER | RG-6 | Perma seal | .69 | .59 |

## 75Ω "F" Connectors/Adapters/Terminators

291709ER

295371ER

295435ER

295531ER

295451ER

| Part No. | Description | 1 | 10 |
|---|---|---|---|
| 291709ER | F jack - jack, nickel plate brass/zinc base | $.65 | $.55 |
| 291725ER | F jack - jack, gold plate brass/zinc base | .95 | .85 |
| 295371ER | F jack - jack, panel mount; nickel plated | .65 | .55 |
| 295380ER | F right angle, jack - plug; nickel plated | 1.59 | 1.39 |
| 295398ER | F jack - push-on plug; nickel plated | .85 | .69 |
| 295435ER | F jack - push-on plug; gold plated | 1.15 | .99 |
| 295531ER | F jack - 3.5mm mono plug; nickel plated | 1.65 | 1.35 |
| 295451ER | F plug terminator | .55 | .45 |

## 3-In-1 Crimping Tool

NEW

***For perma seal connectors only***

- For waterproof type (PERMA SEAL), see pg 2 for connectors
- Black oxide frame finish
- Ratchet mechanism
- Size: 9.1"L
- Weight: 1.2 lbs.

| Part No. | Description | Price |
|---|---|---|
| 291611ER | 3-In-1 Crimping Tool | $49.95 |

COLOR CODE LEGEND... NEW SALE REFURBISHED CLOSEOUT

## Switchcraft® 1/4" Phono Jacks and Male Plugs

281789ER

281754ER

281746ER

♠ These products ship from a separate warehouse and may not ship same day. Each warehouse will accrue separate shipping charges. Sorry, we are not able to ship C.O.D.

| Part No. | Product No. | Description | 1 | 10 |
|---|---|---|---|---|
| 281789ER | 297 ♠ | 1/4" stereo phone audio plug, metal | $4.59 | $3.82 |
| 281771ER | 280 ♠ | 1/4" mono phone audio plug, metal | 3.15 | 2.82 |
| 281762ER | 267 ♠ | 1/4" stereo phone audio plug, black plastic | 4.25 | 3.22 |
| 281754ER | 250 ♠ | 1/4" mono phone audio plug, black plastic | 2.55 | 2.39 |
| 281746ER | 12B ♠ | 1/4" stereo phone audio jack | 1.49 | 1.39 |
| 281738ER | 11 ♠ | 1/4" mono phone audio jack | 1.39 | 1.29 |
| 296892ER | 12A | 1/4" mono phono audio jack, metal | 1.79 | 1.43 |
| 296905ER | 13B | 1/4" mono phono audio jack, metal | 4.15 | 3.76 |
| 296930ER | 42A | 1/4" mono phono audio jack, metal | 1.75 | 1.60 |
| 296956ER | 70 | 1/4" mono phono audio jack, metal | 6.79 | 5.48 |
| 297001ER | 121 | 1/4" mono phono audio jack, metal | 7.15 | 5.87 |
| 297043ER | 151 | 1/4" mono phono audio jack, metal | 5.99 | 4.65 |
| 297060ER | 170 | 1/4" mono phono audio jack, metal | 7.89 | 5.99 |
| 297107ER | 226 | 1/4" mono phono audio jack, RA, metal | 3.89 | 3.70 |
| 296913ER | 14B | 1/4" stereo phono audio jack, metal | 4.19 | 3.81 |
| 297051ER | 152B | 1/4" stereo phono audio jack, metal | 5.75 | 5.11 |
| 297158ER | 290 | 1/4" stereo phono audio jack, metal | 6.19 | 4.78 |
| 297123ER | 236 | 1/4" stereo phono audio jack, RA, metal | 4.89 | 4.83 |
| 297140ER | 238 | 1/4" stereo phono audio jack, RA, metal | 5.55 | 4.19 |
| 296972ER | 111 | 1/4" mono phono audio jack, plastic | 1.45 | 1.31 |
| 297537ER | N111 | 1/4" mono phono audio jack, plastic | 1.69 | 1.54 |
| 302543ER | 240 | 1/4" mono phono audio jack, black | 2.99 | 2.72 |
| 297115ER | 228 | 1/4" mono phono audio jack, RA, plastic | 4.25 | 3.25 |
| 296981ER | 112B | 1/4" stereo phono audio jack, plastic | 1.45 | 1.31 |
| 297027ER | 131 | 1/4" stereo phono audio jack, plastic | 10.49 | 7.82 |
| 297271ER | 515 | 1/4" jack cover | 7.15 | 5.48 |

## Switchcraft® Pro Audio Jacks and Plugs

277026ER

281640ER

281594ER

281674ER

♠ These products ship from a separate warehouse and may not ship same day. Each warehouse will accrue separate shipping charges. Sorry, we are not able to ship C.O.D.

| Part No. | Product No. | Description | 1 | 10 |
|---|---|---|---|---|
| 281560ER | A3M ♠ | 3-pin male microphone, metal | $3.79 | $3.17 |
| 277026ER | A3F ♠ | 3-pin female microphone, metal | 4.49 | 3.99 |
| 281640ER | D3F ♠ | 3-pin female microphone, metal, panel mount | 5.89 | 4.50 |
| 281594ER | A4M ♠ | 4-pin male microphone, metal | 4.59 | 4.08 |
| 281586ER | A4F ♠ | 4-pin female microphone, metal | 7.25 | 5.56 |
| 281674ER | D4M ♠ | 4-pin male microphone, metal, panel mount | 5.19 | 3.96 |
| 297422ER | C3F | 3-pin female, MIC | 7.85 | 7.04 |
| 297431ER | C3M | 3-pin male, MIC | 5.65 | 4.28 |
| 297449ER | C4F | 4-pin female, MIC | 12.15 | 9.11 |
| 297457ER | C4M | 4-pin male, MIC | 7.19 | 5.48 |

## Belden Speaker Cable

### *Electrolytic Tough Pitch (ETP) High Conductivity Copper Speaker Cables*

- 2-conductor stranded • ETP high conductivity copper
- Parallel (1) tinned (1) bare
- PVC insulation • Clear PVC jacket – 368

Expanded Selection

**18 AWG Stranded (16 x 30)**

| Part No. | Product No. | Description | 1 | 5 |
|---|---|---|---|---|
| 232573ER | 9708-100-368 | 100' reel — NEW | $32.59 | $29.48 |
| 232581ER | 9708-500-368 | 500' reel — NEW | 119.85 | 113.82 |

**14 AWG Stranded (19 x 27)**

| Part No. | Product No. | Description | 1 | 5 |
|---|---|---|---|---|
| 232602ER | 9717-100-368 | 100' reel — NEW | $65.49 | $55.09 |
| 233429ER | 9717-500-368 | 500' reel — NEW | 255.69 | 242.25 |

**12 AWG Stranded (65 x 30)**

| Part No. | Product No. | Description | 1 | 5 |
|---|---|---|---|---|
| 232629ER | 9718-100-368 | 100' reel — NEW | $126.35 | $106.13 |
| 232637ER | 9718-500-368 | 500' reel — NEW | 405.25 | 358.42 |

## Belden Multi-Conductor Audio, Control, and Instrumentation Cables, Non-Plenum

**22 AWG stranded (7 x 30) shielded caps**
with 22 AWG stranded TC drain wire

8723 Series

- Polyethylene insulation • Color: chrome – 60

SALE

| Part No. | Product No. | Conduc. | Capacitance | Outer Diameter | Description | 1 | 5 |
|---|---|---|---|---|---|---|---|
| 234190ER | 8761-500-60 | 2 | 79pF/m | .175" | 500' reel | $92.59 | $80.22 |
| 234189ER | 8761-1000-60 | 2 | 79pF/m | .175" | 1000' reel | 173.75 | 159.25 |
| 233234ER | 8771-100-60 | 3 | 75pF/m | .199" | 100' reel | 29.99 | 25.95 |
| 233242ER | 8771-500-60 | 3 | 75pF/m | .199" | 500' reel | 99.49 | 94.31 |
| 234179ER | 8723-100-60 | 4 | 115pF/m | .168" | 100' reel | 21.49 | 19.54 |
| 234181ER | 8723-500-60 | 4 | 115pF/m | .168" | 500' reel | 107.99 | 97.71 |

**22 AWG stranded (7 x 30) unshielded caps**

8444 Series

- PVC insulation • Color: chrome – 60

SALE

| Part No. | Product No. | Conduc. | Capacitance | Outer Diameter | Description | 1 | 5 |
|---|---|---|---|---|---|---|---|
| 232995ER | 8442-100-60 | 2 | 75pF/m | .199" | 100' reel | $11.99 | $10.99 |
| 233007ER | 8442-500-60 | 2 | 75pF/m | .199" | 500' reel | 51.59 | 48.91 |
| 233023ER | 8443-100-60 | 3 | 75pF/m | .199" | 100' reel | 15.69 | 14.25 |
| 233031ER | 8443-500-60 | 3 | 75pF/m | .199" | 500' reel | 72.75 | 68.91 |
| 233058ER | 8444-100-60 | 4 | 75pF/m | .199" | 100' reel | 19.99 | 18.21 |
| 233066ER | 8444-500-60 | 4 | 75pF/m | .199" | 500' reel | 92.99 | 88.07 |

## RG Type Bulk Coaxial Cable

SALE

**RG58A/U (50Ω):** Nominal cap.: 27pF/ft.; center resist.: 10.4Ω/kft. @ 77˚F
**RG174/U (50Ω):** Nominal capacitance: 30.8pF/ft.; center resist.: 97Ω/kft. @ 77˚F

- **Prepackaged and priced in increments of 100' or 1000'**

| Part Number | Mfr. Cross Ref. No. | Description | 100 ft. | 1000 ft. |
|---|---|---|---|---|
| 116898ER | RG58A/U | For ethernet, oscilloscopes (stranded 20AWG) | $18.99 | $150.00 |
| 112037ER | RG174/U | For ethernet, oscilloscopes (stranded 26AWG) | 18.99 | 169.00 |

## Belden Coaxial Cables

SALE

### *75Ω Broadband Coax CATV Cable RG6/U Type*

**18 AWG solid .040" bare copper-covered steel**

- DuoBond® II +60% aluminum braid shield
- Gas injected foam polyethylene insulation; black PVC jacket • Color: black – 10
- Nom. capacitance: 53.1pF/m • Nom. impedance: 75Ω • Nom. outer diameter: .270"

| Part No. | Product No. | Description | 1 | 5 | 10 |
|---|---|---|---|---|---|
| 233269ER | 9116-100-10 | 100' reel | $20.89 | $17.56 | $16.68 |
| 233277ER | 9116-500-10 | 500' reel | 57.19 | 50.07 | 47.57 |

### *Direct Broadcast Satellite RG6 Type Cable*

**18 AWG solid .040" bare copper**

- DuoBond® II +60% aluminum braid • Color: black – 10
- Gas injected foam polyethylene insulation, PVC jacket
- Nom. capacitance: 16.2pF/m • Nom. impedance: 75Ω • Nom. outer diameter: .270"

| Part No. | Product No. | Description | 1 | 5 | 10 |
|---|---|---|---|---|---|
| 234156ER | 1829AC-100-10 | 100' reel | $14.99 | $13.99 | $12.99 |
| 234177ER | 1829AC-500-10 | 500' reel | 54.99 | 52.24 | 49.63 |

### *75Ω Standard Analog Video Cable RG59/U Type*

**23 AWG solid .023" bare copper**

- 95% bare copper braid shield • Color: black – 10
- Polyethylene insulation and black PVC jacket
- Nom. capacitance: 67.3pF/m • Nom. impedance: 75Ω • Nom. outer diameter: .242"

| Part No. | Product No. | Description | 1 | 5 | 10 |
|---|---|---|---|---|---|
| 232901ER | 8241-100-10 | 100' reel | $44.39 | $39.90 | $36.60 |
| 232910ER | 8241-500-10 | 500' reel | 125.19 | 113.62 | 103.17 |

## 3-Way Coaxial Switch Box

- Switches from a single input or output source to 3 outputs or inputs • 60dB isolation – shielded housing
- 75Ω input-output • 5-900MHz UHF/VHF/FM

| Part No. | Description | 1 | 10 |
|---|---|---|---|
| 228241ER | Coaxial switch box | $4.85 | $4.59 |

## Writes anywhere, even underwater!

Apollo 11 Coin & Pen Set

SALE

Durable and lightweight, our Fisher Space Pens are on all NASA space flights. They perform in any condition—upside down, at any angle, in extreme temperatures, on carbonless paper, or even underwater! The Apollo XI Coin and Etched Pen Set commemorates our first manned lunar landing — a Fisher Space Pen was there. The Triple Action Pen allows your choice of black or red ink, or a PDA stylus; all in one. Use your own pen to write anywhere using Fisher Space Pen Refills. Mont Blanc and Cross pens use the specific refills listed. Roller balls by Parker, Waterman, Pelikan, Lamy, Rotring, and Sheaffer use Fisher Space Pen Refills with the included adapters.

| Part No. | Description | Price |
|---|---|---|
| 219395ER | Chrome shuttle pen | ~~$19.99~~ $14.95 |
| 219408ER | Triple action pen | ~~$27.99~~ 19.95 |
| 219387ER | Apollo 11 pen & coin | ~~$39.95~~ 24.95 |

## Fellowes Premium Confetti-Cut Personal Shredder

SALE

When it's time to discard sensitive memos, bank statements, accounting records or other confidential business materials, you want to rest assured that they're gone for good. The PS60C-2 features faster throughput, greater capacity and a finer cut so your documents will disappear in short order. Let this model's confetti-cutting power turn that stack of confidential paperwork into a handful of scrambled dregs with shredded ease.

| Part No. | Description | Price |
|---|---|---|
| 219176ER | Confetti-cut shredder (refurbished) | ~~$49.95~~ $39.95 |

## Fellowes Strip-Cut Shredder

Protect yourself from prying eyes and "dumpster divers" with a personal shredder that's packed with features. The P500-2 is designed to go anywhere you need it. Auto-start and stop means you can feed in up to 7 sheets at a time (staples, paper clips and all!) with one-handed ease; no fumbling for a switch. And at this price, you can turn every wastebasket in your home or office into a maximum security receptacle.

| Part No. | Description | Price |
|---|---|---|
| 219184ER | Personal strip-cut shredder | $9.95 |

***99% In-Stock Availability!***

## Zip open your mail with the greatest of ease!

Open your important correspondence in style with this handy little cordless wonder. Paper cuts and torn contents are a thing of the past; just place the edge of each envelope in the self-feeding slot, and your letters of all shapes and sizes glide through to be effortlessly, professionally and safely opened. No efficient desk should be without one!

| Part No. | Description | Price |
|---|---|---|
| 235475ER | Handheld letter opener | $9.95 |

## Screen your calls without leaving your chair!

SALE

Just like an ordinary Caller-ID box, this next-generation device will announce the number (in English or Spanish!) of the incoming call in a clear, pleasant voice. You can even record up to 50 custom announcements for specific callers, along with two personalized greetings for your special friends or loved ones who call often.

| Part No. | Description | Price |
|---|---|---|
| 234966ER | Voice announce caller ID box | $57.95 |

## Three of the most useful features you'll ever add to your phone line!

***Reduce calls from pesky telemarketers.***

Want to pick up important incoming calls without disrupting your modem connection? Or do you want to avoid picking up annoying calls from telemarketers or fax machines? This handy switch emits tones making pesky telemarketers think you've disconnected your phone line and routes fax calls directly to your fax machine without allowing your phone to ring.

And in addition, you can pick up calls while your modem is on line without needing a second phone line!

| Part No. | Description | Price |
|---|---|---|
| 242780ER | Automatic fax switch | $99.95 |

## If you've visited our Web site recently, you've noticed a change!

Jameco.com has undergone a complete remodeling. Now all our products are neatly organized for quick look-up in the left-hand menu bar, and a new Quick Order box lets you buy specific SKUs in an instant. We're working hard to put the best products at the best prices just one click away!

## The "Real" Father of Modern Radio?

***Edwin Armstrong (1890-1954)***

Inventor of three electronic circuits that are the heart of modern radio, television and radar, Armstrong is largely forgotten today.

His designs for regenerative and superheterodyne circuits made AM radio practical, and his invention of FM gave us static-free high fidelity radio. He was a junior at the Columbia University School of Engineering when he put together his first regenerative circuit, and then the first continuous wave transmitter. His principles are still at the heart of all modern radio transmitters.

Like many innovators, Armstrong struggled against corporate pressure and existing standards that were threatened by his breakthroughs. It wasn't until after his death in 1954 that many of his patents were validated by the courts, and Edwin Armstrong finally took his well deserved place in the history of wireless technology.

SUPER SALE!

COLOR CODE LEGEND... NEW SALE REFURBISHED CLOSEOUT

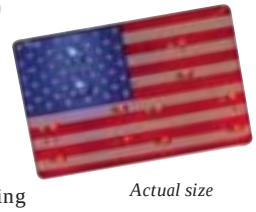
## Clip an animated billboard on your shirt!

*Magnetic clip makes it easy to attach to your shirt or blouse!*

The FlashTag is an eye-catching, customizable name tag with scrolling LED messaging that you can program yourself. The FlashTag is perfect for retailers / sales people, restaurants, trade shows, fund raising events, and the list goes on and on. Approximately the size of a credit card, the FlashTag has 7 different speed settings, scrolls from left to right and it's bright red LEDs will ensure your messages are noticed, especially in a crowd.

| Part No. | Description | Price |
|---|---|---|
| 261673ER | Scrolling message name tag w/ serial programmer | $69.95 |
| 262060ER | Additional name tag | 55.95 |

## Flashing LED American Flag



*Actual size*

This Old Glory is attractive with or without the 12 flashing blue and red LEDs which simulate a flying flag. Magnetic clip attaches to the pocket or lapel of your shirt without creating a hole in your clothing.

| Part No. | Description | Price |
|---|---|---|
| 286969ER | Flashing flag (1.2"W x 0.8"H) | $3.99 |

## Service Is Key!

To be your #1 source, we know service is important. That's why we're available 24/7, offer friendly, knowledgeable technical support, and ship all orders on the same business day when placed before 6 PM EST. We hope you'll continue to reap the benefits Jameco offers.

SERVICE YOU CAN TRUST

## Super hearing at a super-low price!

Holiday Gift Idea

You'll be absolutely amazed at the distant sounds you can pick up with the Big Ear! Listen in on dugout conversations at baseball games, tune into bird calls like you've never heard them before, or play "007" spy games. While there's no limit to the fun you'll have, there is a built-in loud-noise limiter to protect your ears.

*Tune into nature.*

*Get the scoop on the game.*

| Part No. | Description | Price |
|---|---|---|
| 262393ER | Big Ear parabolic microphone | $24.95 |

## Bushnell binoculars for less than $20? Seeing is believing!

Holiday Gift Idea

SALE

Blow Out Price $5.95

Convenient, portable and simple to use, let these compact, factory remanufactured binoculars bring you closer to the action. Insta®-Focus delivers crystal-clear, 12X images while you view. Fully coated lenses and tough rubber armor promise many seasons of trouble-free use. Includes carrying case and neck strap.

| Part No. | Description | Price |
|---|---|---|
| 235571ER | Bushnell sport binoculars | ~~$15.95~~ $5.95 |

## A zoom with a view.

Save $28

Whether you're a sports fan, birdwatcher or amateur PI, these 10x42 binoculars put you right in the middle of the action. They're water-proof and fog-proof for clear, all-weather viewing, and tough rubber armor helps withstand the rigors of all-purpose use. Plus, the zoom-in feature lets you easily adjust for the perfect view. Refurbished to like-new factory specs.

SALE

Holiday Gift Idea

| Part No. | Description | Price |
|---|---|---|
| 236021ER | Bausch & lomb zoom binoculars | ~~$49.95~~ $21.95 |

## See in total darkness. Infrared Monocular gives you an edge.

Holiday Gift Idea

***Like the infrared goggles worn by the U.S. military, Bushnell Night Vision lets you see them, but they can't see you.***

See in the dark without disturbing or alerting others. Night Vision Monocular uses military-grade image intensification technology to let you see clearly for up to 300 feet, even in pitch blackness. It's perfect for campers, hunters, hikers and wildlife enthusiasts… essential for surveillance and search-and-rescue work. Night Vision collects and amplifies the minute amount of light that exists even in what we perceive as pitch black. It converts the light into electrons that strike a phosphor screen, producing a detailed image just the way your TV does. High-speed f1.5 objective lens with 2.4X image magnification. FOV of 79 feet at 100 yards. Weighs 17 oz. with 2 AA batteries (included). Comes with roomy padded carry case with adjustable shoulder strap. 1-year manufacturer's warranty.

| Part No. | Description | Price |
|---|---|---|
| 219694ER | Night vision monocular & case | $199.00 |

## $H_2O$-proof binoculars offer ringside seating through rain, sea and even spilled beer.

1/2 Price Sale

Holiday Gift Idea

***The only binoculars you need to own, they'll take you through rain, sleet, snow, & wild weekends.***

A great gift idea for the outdoor or concert enthusiast at a fantastic price. These 8X compact Bushnell binoculars are completely impervious to wet weather, boating activities, water sports and even the occasional sailing beverage. And at this price, they're a tremendous value even if you live in the Sahara. Rubber armoring and O-rings seal out moisture. Nitrogen purging eliminates fogging, even in wet weather. Multi-coated optics ensure durability, clarity and reduced glare. Roll-down eyecups accommodate glasses. Offers a center focus, 25mm objective lens, and 370' field-of-view at 1000 yards.

**Includes:** Carry case with belt loop, neck strap and lens cloth.

| Part No. | Description | Price |
|---|---|---|
| 220409ER | Bushnell H2O binoculars .... | ~~$24.95~~ $12.95 |

## Open virtually any garage door, while barely opening your wallet.

At this price you can afford to give one to each of the kids, and put one conveniently in each car! Programmable for virtually any existing garage door opener (see below), this one-button wonder augments your current set of garage-door remotes. A long-lasting, replaceable 12-volt battery is included.

**Works with the following major brands and models: Genie #AR85 Series, Sears, Stanley, Chamberlain, Craftsman, Linear, Moore-O-Matic, Multi-Code, Wayne Dalton, Lift-Master and Master Mechanic.**

| Part No. | Description | Price |
|---|---|---|
| 235539ER | Universal garage door opener ..... | $19.95 |

## The 10-second test that could prevent a lifetime of regret!

***Alc Alert displays blood alcohol level, showing when it's not safe to drive.****

No one gets behind the wheel intending to wreck lives. But each year thousands do just that when they misjudge the amount of alcohol in their system. Now there's a simple way to make sure it doesn't happen to you or those you care about.* Alc Alert quickly and discreetly checks blood alcohol level in less than 10 seconds. Just blow as if cooling soup on a spoon. At the sound of 3 beeps, stop and read the results. It's that easy. Buy one for yourself. Give them to everyone you cherish. Makes a thoughtful gift. Party guests actually have fun testing themselves. Gas sensor digital technology measures blood alcohol level (BAC) from .0% to .12%. The backlit display can be read in a dark car. Runs on 2 AAA batteries (included). Size: 3.5" x 1.25" x 0.5".

*Just breath and get results in seconds.*

| Part No. | Description | Price |
|---|---|---|
| 222332ER | Alc Alert breath alcohol detector ~~$49.95~~ | $39.95 |

* No device, no matter how sensitive, can substitute for common sense. If you think your ability to drive may be impaired even slightly, no matter what the test results show—don't drive.

## Kiss flat-tire worries goodbye!

Blow Out Price $9.95

With these two roadside helpers in your trunk, you can finally have portable peace of mind. Both the powerful impact wrench and the mini air compressor plug directly into the 12-volt lighter socket in your car. With its full set of bits, sockets and adaptors, the wrench will loosen the crankiest lug nuts in short order. The air compressor will keep your tires, including the spare, pumped for optimal performance, and can keep bike tires, balls, camping beds and pool/beach inflatables in top form, as well.

| Part No. | Description | Price |
|---|---|---|
| 235441ER | Wrench with air compressor ..... Was ~~$24.95~~ | $9.95 |

## Fresh air in the worst traffic.

If you think the air is bad outside during your commute, it could be even worse inside your car. With the windows rolled up, your in-car environment may be concentrating the pollutants. Chances are, you and your car need a healthy shot of pure, fresh ionized air. Simply plug this compact, self-contained device into your cigarette lighter and it goes to work immediately, removing dust, cigarette smoke, odors and even airborne bacteria to create a clearer, healthier indoor atmosphere. Order one today, and see how billions of negative ions can have a positive effect on you and your health.

| Part No. | Description | Price |
|---|---|---|
| 219352ER | Auto air purifier & ionizer ..... | $19.95 |

## Never get lost or surprised by a storm again.

***Get accurate weather and navigational information and arrive faster without unpleasant surprises.***

Save $25

SALE

*Mounts easily to your car windshield.*

Mount this precision compass and weather station on your car windshield and hit the road knowing not just where you're heading, but what you're heading into. The holographic LCD panel displays your direction, inside and outside temperature, barometric pressure, altitude, and a weather forecast. If outside temperatures dip to 35°, a flashing "Ice Alert" warns you of skid conditions. Set a bearing point, and the compass warns if you veer off-course. Activates and deactivates automatically. Backlight turns on automatically after dark. Includes suction mounting bracket, 3V long-life lithium battery and 12V DC adapter (for emergency use with car lighter outlet). 2-year manufacturer's warranty.

| Part No. | Description | Price |
|---|---|---|
| 222316ER | Compass & weather forecaster ~~$99.95~~ | $74.95 |

## Military-precision compass goes from traffic to trail automatically.

Save $15

SALE

***Go from backroads to backpacking with confidence. The All-in-One Compass switches modes automatically.***

Ingenious design makes the All-in-One Compass two precision navigational instruments in one. In the cradle, it reads direction vertically for driving. Lifted out and held flat, it automatically switches to handheld mode for hiking. Holographic display is easy to read in bright or low light. Pushbutton backlight lets you read in pitch blackness. Runs on two AAA batteries or 12-volt car adapter, both included. Auto turn-off conserves battery life.

| Part No. | Description | Size | Weight | Price |
|---|---|---|---|---|
| 222324ER | Hikers and drivers all-in-one compass | 2.5"L x 2.5"W x 1"H | 0.72 lbs. ..... ~~$44.95~~ | $29.95 |

***Visit us at www.Jameco.com to find more quality components for less.***

**The Best Values** — We search the world to find you the best values!
**The Lowest Prices** — We guarantee the lowest price in any catalog.
**60% More Products** — We've added 60% in the last year.
**Immediate Availability** — Same day shipping on orders placed before 6pm EST.

COLOR CODE LEGEND... NEW SALE REFURBISHED CLOSEOUT

## The Red Light Man

***Nick Holonyak (Born in 1928)***

Today, LEDs come in nearly all the colors of the rainbow. But in the beginning, there was only red—and we can thank Nick Holonyak for the original invention.

Where would we be without the LED? From the earliest digital watches to modern video billboards and your kid's flashing gym shoes, it's hard to find an electronic gizmo that's not lit with these bright little semiconductor sandwiches. Today they're common, but there was a time when there was only one, and it was in the talented hands of Mr. Holonyak.

His former students, many of whom have gone on to become significant inventors in their own right, have described their teacher as one of the "big trees in the forest." Nick himself is a humble pioneer, but he's amazed at how far LEDs have come since their birth 41 years ago in his GE laboratory. He sums up the rewards of innovation this way: "Being at the front end is a fun time, and a fun place."

## 2.4GHz Wireless Audio/Video Transmitter

NEW

- Frequency range: 2413MHz to 2470MHz
- Impedance: 50Ω • Output power: 1 Watt
- Video input: 1Vp-p • Audio input: 2Vp-p

**Includes:** 12VDC@1A wall adapter, RCA patch cable, antenna and mounting hardware

| Part No. | Description | Size (LxWxH) | Price |
|---|---|---|---|
| 289852ER | Wireless audio/video transmitter | 2.4" x 1.9" x 1.4" | $199.95 |

## 4-Channel 2.4GHz Wireless Audio/Video Receiver and 10mW Transmitter

***Make your camera wireless up to 492 feet!***

- Transmission range: 492' (150M outdoors); 164' (50M indoors)
- 4-channel switch selectable on transmitter
- Output power (transmitter): 10mW
- Output impedance: 50Ω typical
- Video input: 1Vp-p composite
- Audio input: 2Vp-p max.
- RCA jacks for audio and video connectors

192858ER

**Receiver:**

- Video loss detection and freeze channel
- Non-volatile memory protects system set-up from power loss
- Mute and alarm trigger port
- Size: (transmitter) 4.5"L x 3.2"W x 1.0"H
- Size: (receiver) 6.5"L x 5.5"W x 1.4"H
- Weight: 1.8 lbs.

192866ER

**Includes:** RCA cable, 12VDC@500mA adapter, RCA to F connector adapter (receiver unit only)

| Part No. | Description | Price |
|---|---|---|
| 192858ER | 4-channel transmitter | $89.95 |
| 192866ER | 4-channel receiver | 124.95 |

## Audio/Video Adapter (CAT 5 UTP)

- Converts impedance of video/audio signals to 100Ω for transmission over CAT 5 UTP cable
- Supports both NTSC or PAL video signals
- Built-in impedance matching device and filter for video and audio signal transmission
- Use with existing premises wiring and wall jacks for easy and cost effective installation
- Video transmission distance: 1000' color/2000' B/W
- Signal pair: video (BNC), CAT pair 1 (RJ45)

**Includes:** 1 RCA to BNC adapter & 2 mounting screws

| Part No. | Connector Type | 1 | 10 |
|---|---|---|---|
| 210471ER | BNC/RJ45 — NEW | $29.95 | $26.95 |

## 4-Channel 2.4GHz Wireless Audio/Video Transmitter System

**CCIR, NTSC, PAL, EIA Format**

- ISM Band: 2.413 – 2.470GHz
- Four selectable channel transmitter and receiver
- Antenna mode: dipole (omnidirectional)
- Impedance: 50Ω typical
- Video input: 1Vp-p composite
- Audio input: 2Vp-p max.
- Weight: 3.2 lbs.

**Includes:** Two 9VDC @ 300mA with 1.3mm x 3.5mm center positive plug, and two 2.5mm male to RCA patch cables

| Part No. | Description | Price |
|---|---|---|
| 265308ER | 4-ch. wireless system | $149.95 |

## Video Text Display Module

***NTSC composite (1Vp-p, 75Ω)***

- Asychronous serial input: 2400, 4800, 9600 or 19.2Kbps
- 30-pin SIMM form factor (socket supplied)
- Compatible with Parallax Basic Stamp®, see pg 104
- Auto-switching genlock overlay or internal video generation • 12 x 18 pixel character pattern
- Power supply: +8-16VDC @ 65mA input; 5VDC aux. output (regulated) provided • Size: 3.5"L x 1.1"H
- Displays up to 308 characters (11 lines of 28)

| Part No. | Mfr. Cross Ref. No. | Price |
|---|---|---|
| 162051ER | BOBII | $69.95 |

***Over 99% of our products are in stock! Place your order by 6PM EST for same business day shipment.***

***1-800-455-6119***

***www.Jameco.com***

## Mount your video camera almost anywhere

***As steady as a tripod, the Window Camera Mount lets you anchor that video camera to any glass surface at any height.***

***Mounts easily to your car window***

Mount your video or CCTV camera on any window or other non-porous surface, and capture what you've never been able to before. This heavy-duty metal mounting bracket attaches securely to any glass surface with a strong lever-activated 3.25" neoprene suction cup. Mount your camera onto the tripod-style screw. Adjust to any position, and you're ready to shoot hands-free. It's perfect for temporary surveillance of your business or home. For cameras up to 3 lbs.

| Part No. | Description | Price |
|---|---|---|
| 222746ER | CCTV camera window mount | $39.95 |

## Mini Indoor Pan & Tilt Mechanism

***Continuous Pan***

Camera not included

- Automatic scanning: 0˚ – 355˚ angular travel; pan clockwise and counter-clockwise
- Manual tilt: 0˚ - 90˚
- Pan speed: 5˚/sec.
- Maximum load: 4.4 lbs.
- Power consumption: 1 Watt
- Size: 2.5"Dia. x 2.4" H
- Warranty: 2 years continuous use • Wt.: 0.4 lbs.

**Includes:** 24V @ 150mA power supply, wall mount bracket and mounting hardware

| Part No. | Description | Price |
|---|---|---|
| 215407ER | Mini pan/tilt | $49.95 |

## Create an R/C plane-cam, model train-cam, or even a French poodle-cam!

Holiday Gift Idea

*This mini-wireless camera can be used for professional or home surveillance or... just to have fun!*

*Attach it to a toy boat and ride the waves of a true sailor.*

*Attach to a model train and get the "Engineer's point of view."*

Now you can place a color video camera (with sound!) almost anywhere! This super-small (1" x 3/4" x 7/8"), 3 Lux wireless camera and receiver combo delivers sharp, full-motion video images at 380 lines of resolution. With its 150-foot (unobstructed) range, light weight, and 9-volt battery power, you can now add video capability to a world of hobby applications.

| Part No. | Description | Price |
|---|---|---|
| 249025ER | Mini wireless color camera | $89.95 |

## Hi-value, low cost 5" monitor system goes anywhere, sees everything, even in low light!

Our convenient low-priced wireless A/V monitoring system easily extends the reach of your eyes and ears to keep watch over your home or business. Just plug it in and you are ready to go. Pick up the lightweight monitor with its convenient handle and use battery power while you keep tabs on your domain anywhere within receiving range. Slide the camera's power switch into the "night" position and the infra-red LEDs allow you to see in very low light. The built-in RCA jacks allow you to run the signals directly into your VCR for true 24/7 security. The set comes complete with one camera and monitor.

**Extra Eyes and Ears**

Expand your video security system with up to three of our versatile add-on cameras which come complete with built-in transmitters. Up to 4 rooms can be observed from a single monitor. Easily switch between cameras with a four-step, 3 to 10 second auto-switching control. The camera's wide field of vision and flexible tilt-and-swivel mount make these black & white cameras a perfect addition to your monitoring set-up. Reliable 2.4 GHz technology transmits clear video and audio to your receiver and monitor.

**Monitor Receiver Specifications:**
- 5" black & white CRT screen with contrast, volume, and brightness controls
- Frequency: 2400-2483 MHz
- Sensitivity: -80 to ~ -85dBm
- Video output: 1Vpp, 75Ω
- Audio output: -8dBs, 47kΩ
- Horizontal resolution: 330 lines
- Automatic camera switching

**Requirements:**
12VDC @ 1A power supply (included) or 10 C size batteries (not included)

**Camera Specifications:**
- Transmit frequency: 2400-2483 MHz
- Modulation: FM
- Max frequency deviation: 20MHz
- Audio sub carrier frequency: 6.0-6.5 MHz
- Usable range: 50-100 meters
- Infrared detection range: 1-2 meters

**Requirements:** 12VDC @ 300mA power supply (included)

| Part No. | Description | Price |
|---|---|---|
| 235045ER | 5" black & white monitor & camera | ~~$169.95~~ $135.95 |

## 4" TFT LCD Monitor

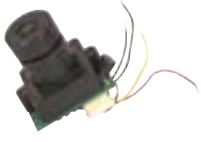
***NTSC Format***

- TFT color LCD
- Resolution: 234 x 383dpi
- Backlight: cold cathode fluorescent lamp
- Power source: 12VDC @ 400mA
- 5" long lead wire with 4 position Molex type power connector
- Tint color and brightness adjustable
- Size: 4.1"L x 3.3"W x 0.7"H (display)
- Size: 4.7"L x 3.3"W x 1.3"H (unit) • Weight: 0.7 lbs.

| Part No. | Description | Price |
|---|---|---|
| 172742ER | 4" color LCD monitor | $159.95 |

## Color Camera Board

***NTSC Format***



- 5.0 lux • FOV: 92˚
- 330 TV lines
- 3.6mm lens/F2.0
- 1/3" image sensor
- Low power consumption
- Automatic exposure, gain and white balance • Size: 1.0"L x 0.9"W x 1.1"H

| Part No. | Description | Price |
|---|---|---|
| 171011ER | Camera board | $73.95 |

**Place your order by 6PM EST for same business day shipment.**

## SONY® Black & White Low-Light Camera

***Sony Chipset***

- Signal to noise ratio: >48dB
- Requires 12V power source (not included)
- 6" wires with 4-pin Molex-type keyed connector
- EIA system 537(H) x 505(V)
- Composite output with 420 line resolution
- Temp tolerance: -5 to +40˚C • Lens: 3.6mm
- Shutter speed: 1/60 - 1/1000 • FOV: 92.6˚
- Video output: 1.0Vpp composite video/75Ω
- Size: 1.3"L x 1.3"W x 1.0"H • One-year warranty

| Part No. | Description | Price |
|---|---|---|
| 150931ER | Camera board | $84.45 |

## Black & White Camera

***EIA Format***

- 510(H) x 492(V)
- S/N ratio: 46dB
- 1/3" CCD image sensor
- Horizontal resolution: >350 lines
- Scanning system: 2:1 interlace
- Sensitivity: 0.7 lux/F2.0
- Video output: 1Vp-p, composite video 75Ω
- Power supply: 12VDC (recommend P/N 162996ER, see web) • Size: 1.3"L x 1.3"W x 1.2"H
- Power consumption: 110mA • FOV: 92˚
- Electronic shutter: 1/125,000 sec. (linear)

| Part No. | Description | Price |
|---|---|---|
| 171029ER | Camera board | $44.95 |

## Color Interline Camera

- EIA format
- FOV: 530
- 5 lux sensitivity
- 1/3" CMOS image sensor
- EIA format: 512(H) x 492(V)
- 330 horizontal line resolution
- 2:1 scanning interlace system
- Video output: 1V p-p; 75Ω
- S/N ratio: 40dB
- 6mm lens/F2.0
- Electronic shutter: 1/60 – 1/1,200 sec.
- Adjustable mounting bracket
- Connectors: 1 standard RCA female jack for video, and in-line 2.1mm power-plug connector for power supply • Size: 2.6"L x 0.9"Dia.

**Includes:** Adjustable mounting bracket, instruction sheet and 9V @ 100mA power supply

| Part No. | Description | Price |
|---|---|---|
| 185017ER | Color camera | $99.95 |

## Mini Enclosed Color NTSC Camera

- 1/4" CCD sensor
- 350 horizontal TV lines
- Electronic shutter: up to 1/120,000 sec.
- 1 lux/F2.0
- NTSC system with 512(H) x 492(V)
- Scanning system: 2:1 interlace
- Signal to noise ratio: 48dB • Lens: 3.7mm/F2.0
- Video output: 1Vp-p, 75Ω • FOV: 92˚
- Size: (enclosure) 1.3"L x 1.1"W x 0.9"D

**Requires:** 9VDC – 12VDC @ 500mA power supply (recommend P/N 100853ER, pg 38)

**Includes:** BNC/power cable and mounting hardware

| Part No. | Description | Price |
|---|---|---|
| 215423ER | Mini enclosed camera | $129.95 |

## Don't be caught vulnerable at night. Add a solar-charged halogen light!

Dark spots around your business, house or neighborhood are vulnerable to vandalism or burglary. To protect your property, equip it with our new outdoor security lights and motion sensors. All you need are simple tools to mount the unit to the wall. No complicated wiring or electrician needed. The built-in batteries are rechargeable by sunlight, so if the main power goes out you still have security lighting. The solar panel, which has a 12' cord, can be positioned for optimum light exposure. Charge a minimum of 3 days before initial use for proper operation.

- Lights up to 60 times on a single charge
- Charges by day, lights by night
- Complete with built-in motion detector, rechargeable battery and bright halogen light
- Easy to install • Weight: 7.1 lbs.

| Part No. | Description | Price |
|---|---|---|
| 219580ER | Solar outdoor floodlight | ~~$79.95~~ $71.95 |

## 2.4GHz SMA RF Antenna

- For use with 2.4GHz cameras, transmitters, and receivers
- Gain: 3dB • SMA male
- Size: 3.6"L

| Part No. | Description | Price |
|---|---|---|
| 179864ER | 2.4GHz antenna | $15.95 |

Discover how easy it is to build your own home automation system while you amaze your friends and spoil your family with the convenience. Control your home lighting and other devices around the home with the touch of a button, or through your computer.

## Velleman® Home Automation Solutions

Control devices and lighting systems using a touch pad, remote control or your computer. Use the chart below to determine the compatibility of Velleman's solutions with your applications.

## Velleman Home Automation Kits Compatibility Table

| Description | Part No. | 239476ER | 128910ER | 128928ER | 239484ER | 239492ER | 239505ER | 239516ER | 239468ER | Device Control: Touch Pad Controlled | Device Control: Computer Controlled | Device Control: IR Remote Controlled | Lighting Control: Touch Pad Controlled | Lighting Control: Computer Controlled | Lighting Control: IR Remote Controlled |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Relay Card K2633 | 239476ER | — | | | | | | | Yes | Yes | | | | | |
| Universal Relay Card K6741 | 128910ER | | — | Yes | Yes | | | | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Computer Control Interface K8000 | 128928ER | | Yes | — | Yes | | | | | Optional | | Optional | Optional | | Optional |
| Modular Lighting System K8006 | 239484ER | | Yes | Yes | — | Yes | Yes | Yes | Yes | | | | Yes | Yes | Yes |
| Dimmer Module K8007 | 239492ER | | | | Yes | — | | | | | | | Yes* | Yes* | Yes* |
| Multi-Function Relay Module K8008 | 239505ER | | | | Yes | | — | | | | | | Yes* | Yes* | Yes* |
| Slow-On/Off Dimmer K8029 | 239516ER | | | | Yes | | | — | | | | | Yes* | Yes* | Yes* |
| 8-Channel Touch Panel K8046 | 239468ER | Yes | Yes | Yes | Yes | | | | — | | Optional | | | Optional | |

* Requires: 239484ER (K8006), below

## Dimmer Module ▲ *24-piece kit*

Easy pushbutton up / down control of light sources. A brief push toggles on / off, while continued pushing engages dimming action. Memory function maintains preferred level. Includes soft-start function. Suitable for low voltage halogen lighting.

- For use with K8006 modular light base unit (P/N 239484ER, below right)
- Operating voltages: 110-125 or 220-240VAC @ 50-60Hz
- Maximum load: 2.5A (550W/220V; 275W/110V)
- Transient suppressor to avoid radio/TV interference according to EN55015
- Dimming speed: approximately 3.5 seconds
- Size: 2.6"L x 2.2"W x 1.0"H

| Part No. | Description | Price |
|---|---|---|
| 239492ER | K8007 Dimmer module kit | $22.95 |

## Slow-On/Slow-Off Dimmer

▲ *31-piece kit*

Microprocessor controlled dual mode operation. Slow-on / slow-off dimmer with two independent and programmable delays. Dimming directions change with each key press. Has two lighting modes. Mode one provides control for slow-on / slow-off dimming and total light level depending on key pressed. Mode two provides instant full power lighting for a programmable time and then the light slowly fades to zero.

- For use with K8006 modular light base unit (P/N 239484ER, right)
- 2 programmable delays: from 1 second to 1 hour
- No memory loss in case of power failure
- Soft-start function that prolongs life of bulb
- AC power: 110-125 or 220-240VAC @ 50-60Hz
- Maximum load: 2A (200W/110V; 400W/220V)

| Part No. | Description | Price |
|---|---|---|
| 239516ER | K28029 Slow on/off dimmer | $22.95 |

## Multi-Function Relay Module

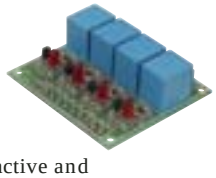
▲ *30-piece kit*

Fourteen different functions including timers, switching, flashing, interval, and random switching. Two pre-programmed delays. Learning mode for delays of 2 seconds up to 12 days. Pushbutton control. EEPROM for delay time storage in case of power failure. On-board transient filter for relay contacts or loads (selectable). Suitable for control of incandescent lighting, halogen lighting, fluorescent lighting, fans, valves, buzzers, and more.

- For use with K8006 modular light base unit (P/N 239484ER, below right)
- Operational voltages: 110-125V or 220-240VAC @ 50-60Hz
- Maximum load: 2.5A (550W/220V; 275W/110V)
- Size: 2.6"L x 2.2"W x 1.0"H

| Part No. | Description | Price |
|---|---|---|
| 239505ER | K8008 Multi-function relay module | $24.95 |

## Relay Card ■ *29-piece kit*



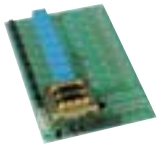
Connecting a number of relays to the outputs of an electronic network may seem very simple, but in reality it could create some problems regarding the cabling. This kit provides an attractive and compact alternative. Easy to assemble and can be connected instantly. Can be used with K8046, 8 channel touch panel (P / N 239468ER, pg 99). Requires 9VDC @ 300mA power supply (not included); see below.

- 4 x 3A relay outputs • Size: 3.0"L x 2.7"W

| Part No. | Description | Price |
|---|---|---|
| 239476ER | K2633 relay card kit | $24.95 |
| 133891ER | 9VDC @ 300mA power supply | 3.95 |

## Universal Relay Card

▲ *64-piece kit*



128910ER

An electronic controller that switches higher currents while providing insulation between the controller and the controlled devices.

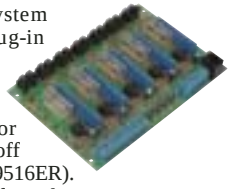
- Relay Output: Max. 5A/220VAC
- Contact Volt.: 12VDC/250mA • TTL or CMOS inputs

**Requires:** 125 or 220VAC power source (recommended P/N 34315ER, pg 10)

| Part No. | Description | 1 | 10 |
|---|---|---|---|
| 128910ER | K6714 Universal relay card kit | $59.95 | $53.95 |
| 144186ER | VR15M121C relay (JZC-22F) | 3.79 | 3.39 |

## Modular Lighting System Base Unit

▲ *94-piece kit*



Modular light control system for use with optional plug-in dimmer module K8007 (P / N 239492ER), plug-in timer module K8008 (P / N 239505ER) or plug-in slow-on / slow-off module K8029 (P / N 239516ER). Bus system holds up to five plug-in units. Optically-isolated push-button inputs can be controlled with K8000 computer interface card (P / N 128928ER) or K6711 IR remote control receiver (P / N 120547ER). Local control push-buttons included. LED power and channel operation indicators. Low-voltage (24VAC) control circuit for extra safety. Each plug-in slot is fused. Includes 10 LEDs for pushbutton illumination.

- 5 separated channels
- Max. output: 2.5A per channel (fuse protected)
- Pushbutton control current: 150mA
- Open collector control current: 25mA DC
- Power supply: 24VAC @ 300mA
- Supply voltage for modules: 110V to 240V
- Size: 4.2"L x 6.3"W x 2.8"H

| Part No. | Product No. | Price |
|---|---|---|
| 239484ER | K8006 Modular lighting system kit | $39.95 |

*Log onto our website for our complete selection of kits: www.Jameco.com*

# velleman Home Automation Control Interfaces

## User Definable 8-Channel Touch Panel ▲ *105-piece kit*

Ever wanted your own keyboard with your own personal layout and symbols? Here is the solution: simply print your keyboard layout on a transparent foil and make your own keyboard. The function of each key can be selected (momentary or toggle) and each key is backlit. It is even possible to simulate "classic radio keys" (only one output can be ON, similar to a rotary switch). One key can be defined as a preset memory or serve as an "all clear" key. Completing the features of this unique keyboard is a "click" sound when the keys are operated. The output can easily be connected to your applications or to several of our home automation kits on these pages: K8006 Base unit for home modular light system (P / N 239484ER), K2633 relay card kit (P / N 239476ER), K8000 computer interface card kit (P / N 128928ER), K6714 universal relay card kit (P / N 128910ER).

- Max. 8 definable keys
- LED status indication for each key/output
- Soft-touch see-through panel with 8 keys
- Backlight with dimming function
- Unique key-click feedback
- Design mounting bezel unit included
- Easy board-to-wire jumpers
- 4 different jumper selectable functions can be setup as: 8 independent keys (toggle or momentary key); 8 radio keys (simulation for rotary switch); 4 radio and 4 independent keys; single key is reserved for memory key or all clear key
- Size: 6.5"L x 3.5"W x 1.4"H
- 8 open-collector switches, 50V@100mA max.

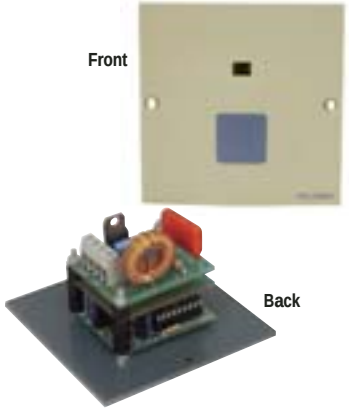
| Part No. | Product No. | Price |
|---|---|---|
| 239468ER | K8046 8-channel touch panel | $99.95 |

## Remote-Controlled Dimmer with Manual Touch-Pad Kit ■ *45-piece kit*

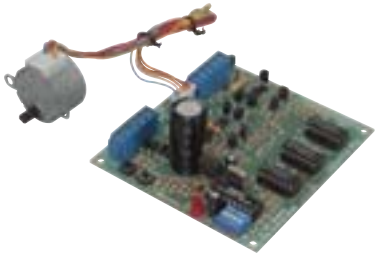
This single channel IR receiver / dimmer works together with the 15-channel IR transmitter P / N 120555 (K6710). The receiver code can be set to 1 of the 15 transmitter codes so that 15 receivers can be operated independently of each other. This can be used in a number of applications such as light dimmers, garage door openers, and security applications. With its compact design, it fits into a standard light switch housing.

- 4 identification codes, 15 channel codes
- 2 memories for preserving dim states or on/off
- Maximum load: 2A (4A with heat sink)
- Supply voltage: 220VAC (50/60Hz)
- Max. transmitter / receiver distance: 7m (23 feet)

| Part No. | Product No. | Price |
|---|---|---|
| 263687ER | K6712 | $58.95 |




## Stepper Motor Controller Card and Motor Kit ■ *102-piece kit*



This kit is very useful in any home automation project where positioning is needed (i.e. controlling valves, HVAC duct dampers, controlling natural light through window blinds, remotely turning down water heaters, or any home robotic projects). This controller card can be used with P / N 128928 (K8000 – computer interface board) and 16 of these kits can be connected to a single computer interface board. Bipolar and unipolar motors can be used with this controller card (1A maximum) and this kit comes with a high precision stepping motor (0.9 degree stepping angle).

- IC controlled via P/N 128928 (K8000)
- Adjustable drive speed
- Check status of switches via computer interface board or drive another motor
- Emergency stop can be sent to one or all cards
- Programmable in Visual Basic, Turbo Pascal for DOS, Quick Basic (Windows® 95/98/ME)
- Power supply: 7 – 25VAC or VDC @ 1.5A
- Board dimension: 3.9"L x 3.5"W

| Part No. | Product No. | Price |
|---|---|---|
| 263628ER | K8005 | $59.95 |

*More Kits @ www.Jameco.com/Kits*

## Computer Control Interface ▲ *301-piece kit*

Connects to printer port without interruption of the printer. Works in control applications such as the infrared transmitter (P / N 120555ER, see web).

- 16 I/Os with optocouplers
- Analog outputs: eight 6-bit (64 steps), one 8-bit (256 steps)
- Analog inputs: four 8-bit (256 steps)
- Full opto-isolation with computer
- 3.5" driver disk w/ routines in C++, QBASIC, Turbo Pascal
- Dimensions: 9.3"L x 5.3"W
- Weight: 1.7 lbs.

**Requires:** DB25 cable (P/N 65787ER, pg 74)

| Part No. | Description | Price |
|---|---|---|
| 128928ER | K8000 Computer control kit | $139.95 |

## "Amazing Grace"

***Rear Admiral "Amazing Grace" Murray Hopper, USNR (1906-1992)***

Who can forget Rear Admiral Grace Hopper, cheerfully teaching computer engineers about the importance of nanoseconds? She was a mathematician, a computer scientist and programmer, and a marketing genius, but mostly, she was a visionary. Even as a child in New York City, Ms. Hopper loved gadgets. Specifically, she loved to take things apart and put them back together, to really see how they worked. Eventually, she found computers, and established a life-long love of the then-new technology. During World War II, Grace became the first programmer on the Navy's Mark I computer. Later, she joined the Harvard Faculty, there helping to develop the Mark II and Mark III computers. It was at Harvard that she traced a now-famous error in the Mark II to a moth trapped in a relay, and coined the term "computer bug."

She pioneered computer languages through the development of COBOL. Many feel this language was the birth of modern programming. She was also famous for handing out short lengths of wire at her seminars, to demonstrate the distance electricity can traverse in a nanosecond. Through this simple device, she inspired many generations of programmers and engineers to code and design as efficiently as possible.

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# Infrared/Test & Measurement

## Accelerometer Evaluation Boards

***Dual Axis***

Crossbow

177308ER

Evaluation board for the ADXL202, dual axis, 2g accelerometer.

**177308ER:** features RS-232 interface to connect to PC serial ports. Also includes software to display real time acceleration data.

| Part No. | Product No. | Description | 1 | 10 |
|---|---|---|---|---|
| 177287ER | ADXL202EB | Dual axis ..... | $59.95 | $53.95 |
| 177308ER | ADXL202EB-232 | w/ RS-232 .... | 159.95 | 144.95 |

## Infrared Transmitter/ Receiver Kit ● *26-piece kit*

Transmit a 40kHz modulated I-R signal to a distance of 6' to 8'. Can be used as a remote switch to turn objects OFF and ON by infrared. The IR receiver will only receive 40kHz modulated infrared light. You can configure the output for normally ON or normally OFF operation. This allows you to use it as a security sensor or as a remote control switch. You can use the receiver to test TV or VCR remote controls.

- Transmitter size: 1.0"L x 0.8"W
- Receiver size: 1.4"L x 1.2"W

**Requires:** 6 to 15VDC battery (recommend P/N 151095ER, pg 47)

| Part No. | Mfr. Cross Ref. No. | 1 | 10 |
|---|---|---|---|
| 177092ER | IR-2 — NEW..... | $24.95 | $22.49 |

## Function Generator ■ *21-piece kit*

***Sine, Triangle and Square Wave***

Great for prototyping electronic circuits. Produces waveforms at frequencies continuously variable from 1Hz to 100kHz.

- Dimensions: 4.1"L x 1.5"W

**Requires:** 12VDC supply or ±6VDC split supply (recommend P/N 20626ER, right)

| Part No. | Description | 1 | 10 |
|---|---|---|---|
| 20685ER | JE2206 function generator kit | $24.95 | $22.95 |

## Precision Navigation, Inc. Vector 2X Compass Module

- 2° accuracy, 1° resolution
- 5Hz sampling rate
- Hard iron calibration
- Pin selectable BCD or binary output format
- Raw uncalibrated magnetometer output optional
- 3-wire serial output format (compatible with Motorola SPI and National Microwire)
- Master or slave capability for data clock generation

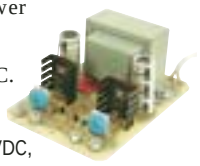
**Requires:** Power supply 5V @ 10mA (recommend P/N 112070ER, pg 38)

| Part No. | Description | 1 | 10 |
|---|---|---|---|
| 126703ER | Vector 2X module — NEW.. | $49.95 | $44.95 |

***Same Day Shipping and Always In Stock!***

# Power and Motor

## Dual Adjustable Regulated Power Supply ■ *48-piece kit*



Build a dual adjustable power supply for your circuits. Outputs positive-negative voltages from ±5 to ±15VDC.

- 120VAC input
- Adjustable positive and negative supplies ±5 to ±15VDC, 175mA – 750mA per supply
- LED on indicator • PC board construction
- Dimensions: 5.1"L x 3.5"W x 2.0"H • Wt.: 2.1 lbs.

**Includes:** Components and hardware

| Part No. | Description | 1 | 10 |
|---|---|---|---|
| 20626ER | JE215 power supply kit ..... | $22.95 | $20.49 |

## DC Motor Speed Control

■ *35-piece kit*

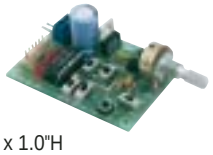
- Uses pulse width modulation to vary the speed of a DC motor & maintain torque
- For motors up to 100VDC/5A max.
- Dimensions: 3.6"L x 2.3"W x 1.2"H

**Requires:** 5-16VDC supply (recommend P/N 114825ER, see website)

| Part No. | Description | 1 | 10 |
|---|---|---|---|
| 127829ER | Motor control kit ..... | $19.95 | $17.95 |

## Unipolar Stepper Motor Driver

■ *29-piece kit*



- Will drive unipolar stepper motors rated up to 6-30VDC @ 1.25A
- Onboard 5VDC regulator
- Drives 5, 6 or 8 lead unipolar stepper motors
- Dimensions: 2.6"L x 1.9"W x 1.0"H

| Part No. | Description | 1 | 10 |
|---|---|---|---|
| 139109ER | Stepper motor kit ..... | $29.95 | $26.95 |

## DC to Pulse Width Modulator

▲ *40-piece kit*

The circuit converts a DC voltage into a series of pulses, such that the pulse duration is directly proportional to the value of the DC voltage.

- PWM range: 0 to 100%
- PWM frequency: 100Hz to 5kHz (adjustable)
- Operating voltage: 8 to 35VDC
- Min. consumption: 35mA
- Max. output current: 6.5A
- Efficiency: better than 90% at full load
- Adjustable sensitivity: 2.5 to 35VDC
- Dimensions: 3.3"L x 1.9"W x 1.8"H
- Weight: 0.5 lbs.

velleman

| Part No. | Description | 1 | 10 |
|---|---|---|---|
| 120539ER | K8004 modulator kit ..... | $22.95 | $20.49 |

# Speech Recognition Kits

## Voice Direct II Stand-Alone Speech Recognition Kit

Bring life to consumer electronics, toys, motors, appliances, lights, and games through the power of VoiceActivation™ from Sensory. Voice Direct™ II is a speaker-dependent speech recognition module, allowing training of up to 15 words; capable of being organized into 1 to 3 command sets. Using sophisticated speech recognition technology, Voice Direct™ II maps spoken commands to system control functions via digital I/O ports. Each time one of the words is recognized, output pins on the module are toggled high for 1 second. With Continuous Listening Technology, it means no button press is required for activation. Up to 3 "gateway" words can be programmed, each allowing access to 5 commands. In addition, Sensory's latest Voice Direct™ II technology builds on the original Voice Direct™ by offering even higher accuracy, faster response times, and improved noise immunity.

- Weight: 0.4 lbs.

| Part No. | Product No. | 1 | 10 |
|---|---|---|---|
| 225971ER | 66-0101 — NEW ..... | $59.95 | $53.95 |

## velleman Voice Activated LEDs Kit ■ *33-piece kit*

Uses sound to activate the flashing of 4 bright red LEDs.

- Power consumption: 0.5mA min./12mA max.
- Adjustable sensitivity
- Size: 2.5"L x 1.6"W x 1.4"H
- Weight: 0.1 lbs.

**Requires:** 8-15VDC power supply (P/N 100095ER, pg 102) or 9VDC battery (P/N 151095ER, pg 47)

| Part No. | Product No. | 1 | 10 |
|---|---|---|---|
| 147571ER | MK103 — NEW ..... | $9.95 | $8.95 |

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## PowerFilm Flexible Thin Film Solar Modules

### *Wireless Electronics Series*

The wireless electronics series offers a new opportunity to solve the old problem of limited-power for wireless electronics in portable and remote applications. These modules are lightweight, paper thin, and durable. With their ultra-film profile, they are easily integrated with devices for solar recharging or direct powering. Specifically developed to recharge AA, AAA, plus 6 and 12 volt batteries.

228064ER

| Part No. | Product No. | Operating Voltage (V) | Operating Current (mA) | Size (L x W x T) Inches | Size (L x W x T) mm | Pricing 1 | Pricing 10 |
|---|---|---|---|---|---|---|---|
| 227985ER | SP3-37 | 3.0 | 22 | 2.5 x 1.5 x .01 | 64 x 37 x 0.2 | $3.89 | $3.49 |
| 227993ER | TX 3-25 | 3.0 | 25 | 4.5 x 1.0 x .01 | 114 x 25 x 0.2 | 2.89 | 2.45 |
| 228013ER | MPT3.6-75 | 3.6 | 50 | 2.9 x 3.0 x .01 | 74 x 75 x 0.2 | 8.89 | 7.99 |
| 228021ER | MPT3.6-150 | 3.6 | 100 | 2.9 x 5.9 x .01 | 74 x 150 x 0.2 | 17.89 | 15.99 |
| 228030ER | SP4.2-37 | 4.2 | 22 | 3.3 x 1.5 x .01 | 84 x 37 x 0.2 | 5.89 | 5.29 |
| 228048ER | MPT4.8-75 | 4.8 | 50 | 3.7 x 3.0 x .01 | 97 x 75 x 0.2 | 11.89 | 10.69 |
| 228056ER | MPT4.8-150 | 4.8 | 100 | 3.7 x 5.9 x .01 | 94 x 150 x 0.2 | 22.89 | 20.59 |
| 228064ER | MPT6-75 | 6.0 | 50 | 4.5 x 3.0 x .01 | 114 x 75 x 0.2 | 13.89 | 12.49 |
| 228072ER | MPT6-150 | 6.0 | 100 | 4.5 x 5.9 x .01 | 114 x 150 x 0.2 | 27.89 | 24.99 |
| 228081ER | MP7.2-75 | 7.2 | 100 | 10.0 x 3.0 x .02 | 253 x 75 x 0.6 | 24.89 | 22.39 |
| 228099ER | MP7.2-150 | 7.2 | 200 | 10.0 x 5.9 x .02 | 253 x 150 x 0.6 | 39.89 | 37.99 |
| 228101ER | MPT15-75 | 15.4 | 50 | 10.0 x 3.0 x .02 | 253 x 75 x 0.6 | 26.89 | 24.29 |
| 228110ER | MPT15-150 | 15.4 | 100 | 10.0 x 5.9 x .02 | 253 x 150 x 0.6 | 44.89 | 42.99 |

## velleman Solar Cells

The perfect solar cells for students and experimenters in these rugged cases.

- Connection: lead

200221ER

**200221ER:** 2V @ 200mA **215319ER:** 3V @ 100mA
**215327ER:** 6V @ 200mA

| Part No. | Product No. | Size (LxW) | 1 | 10 |
|---|---|---|---|---|
| 200221ER | SOL4 | 3.0" x 3.7" | $8.99 | $7.99 |
| 215319ER | 4-3.0-100 | 3.8" x 2.5" | 14.29 | 12.89 |
| 215327ER | 4-6.0-50 | 3.8" x 2.5" | 15.79 | 14.39 |

## ALPEC Laser Pointer Pens

153605ER

127749ER

- Range up to 500 yards
- 670nm red laser

Class IIIa Laser Products

**Includes:** 2 AAA batteries

| Part No. | Description | Size (L" x Dia") | 1 | 10 |
|---|---|---|---|---|
| 153605ER | Black pen | 5.2 x 0.4 | $19.95 | $17.95 |
| 127749ER | Silver brass | 5.4 x 0.4 | 21.95 | 19.95 |

## Illuminate the heavens…or just your presentation 20 football fields away.

Save $30

Holiday Gift Idea

***Ultra-intense green beam is much brighter, goes much farther and is easier on the eyes than standard red lasers.***

Even the sleepiest audience will sit up and salute when you whip out a laser pointer that's green, not red…and so bright, you could be standing nearly half a mile away. Using a wavelength closely matched to the highest sensitivity of the human eye and built with cutting-edge crystal technology, this laser projects a green beam so powerful you can see it against a clear sky at night. You won't believe how bright it is. Metal gift box, clip and 2 AAA batteries included. Power output <5mW. Wavelength: 532nm. 90-day mfg. warranty.

| Part No. | Description | Price |
|---|---|---|
| 223731ER | Green laser pointer ..... | ~~$199.95~~ $169.95 |

## They yawned when I pulled out my laser pointer. But when I switched it on...

***The farther away from your target, the bigger the show. Great fun for parties, family gatherings, science lessons, even dull meetings.***

Why settle for a humdrum laser pointer? Get this one and wake up the crowd. Yes, it does everyday "pointer-duty" with the best of them. But flip a switch, and it goes nuts—leaping, spiraling, swirling. The secret? An internal mirror mounted on a tiny spring that "springs" with your slightest movement. Think you can hold steady enough to stop it? Go ahead and try. Range: pointer mode – 500 yards; lightshow mode – 30 yards. Wavelength: 650nm. Power: <5mW. Class IIIa. 2-year manufacturer's warranty. Includes neck strap and batteries.

Holiday Gift Idea

*Hours of fun with different patterns, all shapes and sizes!*

| Part No. | Description | Price |
|---|---|---|
| 223714ER | Laser Light Show–Black Case — NEW..... | $22.25 |

## Glass-Lens Red Laser Diode and Line Generator

**133292ER: Laser Diode** Class IIIa Laser Product

This lens design uses 3-element glass to collect almost all the power from the laser diode resulting in a brighter spot than many typical laser applications.

133292ER

- Operating voltage: 4.0–6.0VDC (recommend P/N 112070ER, pg 38)
- Maximum output: 4mW
- Beam size at 7m: oval – 5mm x 8mm
- Wavelength: 660nm
- Beam divergence: 0.2mrad
- Green LED indicator
- Module size: 2.0"L x 0.5"W

134148ER

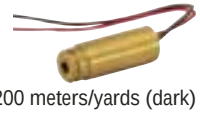
**134148ER: 60° Line Generating Lens**

- Adjustable focus range: 50 cm to ∞
- Back focal length: 1.5mm • Focal length: 8.0mm
- Beam divergence: 2.0mrad
- Lens construction: 3E.3G (glass)
- Fan angle: 60° • Length at 1 meter distance: 1.7 m

| Part No. | Description | 1 | 10 |
|---|---|---|---|
| 133292ER | Glass laser diode ..... | $44.95 | $39.95 |
| 134148ER | 60° lens ..... | 12.95 | 11.49 |

## Laser Diode Module

Class IIIa Laser Product



- Operates on 3VDC @ <5mW
- 670nm wavelength
- Beam diameter: 3.2mm
- Working distance: over 50 meters/yards (daylight), 200 meters/yards (dark)
- Size: 0.9"L x 0.3"Dia. • One-year warranty

| Part No. | Description | 1 | 10 |
|---|---|---|---|
| 131203ER | Laser module, brass ..... | $44.95 | $40.49 |

## Laser Diode and Driver

**182932ER: Laser Diode**

Class IIIa Laser Product

182932ER

- Optical output power: ≤5mW maximum
- Operating current: 30mA
- Operating voltage: 2.6V maximum
- Lasting wavelength: 650nm typical
- 5.6mm packaging size
- Beam divergence: 11° from center

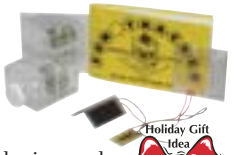
161736ER

**161736ER: Laser driver w/ regulator**

- Input voltage: 2.6-6VDC
- Input current: 40mA

| Part No. | Description | 1 | 10 |
|---|---|---|---|
| 182932ER | 650nm laser diode ..... | $11.95 | $10.79 |
| 161736ER | Laser driver ..... | 7.95 | 6.95 |

## Photovoltaic Sun Tracker Solar Kit



This kit gives students and hobbyists a realistic taste of practical applications for solar power. Contains motor, gear train, solar cell, tracker device, and instruction booklet. Booklet explains how to make sundials and three other unusual solar projects.

Holiday Gift Idea

| Part No. | Description | 1 | 10 |
|---|---|---|---|
| 215191ER | Sun tracker solar kit — NEW | $23.25 | $20.89 |

***We're always looking for suggestions. Help us better supply more of the products you need. Drop us a line at: AtHome@Jameco.com***

## Love is in the air…The perfect gift for that someone special!

### 46-Piece Beating Heart Kit

This kit shows a beating heart. Give it to someone you love.

- Power consumption: 8mA
- Requires 9V battery (not included)

| Part No. | Description | Price |
|---|---|---|
| 147555ER | Sweetheart kit | $11.95 |
| 198791ER | 9 volt battery | 2.85 |

### 26-Piece SMT Flashing Heart Kit

Now introducing our new Flashing LED Heart kit in surface mount technology. Miniature components make it small enough to be worn around the neck or pinned to your shirt. An ideal introduction to SMD technology and it's a great attention grabber.

- 6 LEDs flash alternately
- Size: 1.9"L x 1.7"W x 0.3"Thick
- Requires 3V lithium button cell battery (CR2025 or CR2032) not included.

| Part No. | Description | Price |
|---|---|---|
| 242739ER | Sweetheart kit | $9.95 |
| 14162ER | CR2032 coin cell battery | 1.25 |

## Display your message in thin air!

Tell the world how you feel! Just wave this high-tech wand, and messages seem to float in the air, lit up with bright LEDs. Great for kids, parties or even to display distress messages. Your kit-building skill and the magic of electronics make it possible. Plenty of built-in messages come ready-to-run, or program in your very own 7-character memo. Requires two AAA batteries (listed below).

| Part No. | Description | Price |
|---|---|---|
| 239441ER | Magic message kit | $19.95 |
| 249228ER | AAA batteries (4-pack) | 2.20 |

## 1 Second - 3 Minute Timer Module

- Output contact rating: 5A @ 200VAC
- Size: 3.0"L x 1.7"W x 1.2"H

**Requires:** Power supply 12V @ 50mA (recommend P/N 100095ER, see website)

| Part No. | Description | 1 | 10 |
|---|---|---|---|
| 147871ER | 1 second to 3 minute timer | $19.95 | $17.95 |
| 100095ER | 12VDC@200mA power supply | 3.95 | 3.56 |

## Lead Acid Battery Charger Kit

Charge and maintain both open and sealed type 6V or 12V lead-acid batteries. Can be hooked-up to the unit for an indefinite time, and will be kept in optimal condition. Selectable battery type and charge current, while the charging process is fully automatic. Requires a 18V / 25VA transformer (not included; P / N 149956ER see web).

- Charge current: 0.3 or 1 amp (selectable)

| Part No. | Product No. | PCB Dimensions | Price |
|---|---|---|---|
| 239521ER | K8012 | 3.8"L x 5.5"W x 1.6"H | $39.95 |

## Super Snooper Big Ear Audio Amplifier Kit ■ 17-piece kit

Listen through walls, hear conversations across the room or listen to sounds a block away. Add a parabolic reflector or mount the microphone in a tube, to isolate unwanted noise and make a directional microphone.

- Operating voltage: 9VDC (recommend P/N 151095ER, pg 47)

**Includes:** Instructions, outputs for speakers or headsets and schematic

| Part No. | Dimensions | Price |
|---|---|---|
| 151204ER | 1.8"L x 1.0"W x 0.6"H | $10.95 |

***More Kits @ www.Jameco.com/Kits***

***Visit our website for our complete selection of kits.***

## Electronic timer, a perfect gift!

■ 26-piece kit

This fun-to-build kit is a perfect introduction to the wonderful world of electronics. When it's finished, this handy timer times events up to one hour in one minute increments using one-button. It's a perfect addition for your kitchen. 16 LEDs keep the count, and the auto-off feature helps batteries last longer. Requires three AA batteries (not included).

| Part No. | Description | Price |
|---|---|---|
| 239409ER | Kitchen timer kit | $19.95 |
| 249210ER | AA batteries (pack of 4) | 2.56 |

## Clap-On, Clap-Off

■ 42-piece kit

Learn all about sonic remote control, and then enjoy the benefits of clap-on, clap-off convenience. Control lights or other appliances (up to 24VDC at 3 amps) with adjustable one-clap or two-clap activation. LED indicator, microprocessor precision, and 5-hour "off" timer are among the advanced features of this easy-to-build kit. Requires 12VDC @ 15mA power supply (not included).

| Part No. | Description | Price |
|---|---|---|
| 242747ER | Clap-on, clap-off kit | $19.95 |
| 127976ER | 12VDC @ 15mA power supply | 4.75 |

## Wheel of Fortune

■ 26-piece kit

This electronic wheel-of-fortune kit is a great way to have family fun on the road or at home. Push a button and 10 LED's imitate a spinning wheel gradually decreasing speed until it stops, lighting up one LED. Create your own faceplates with different cash rewards, gifts and other prizes. Carry everywhere and play your favorite game. Requires 9V battery (not included).

| Part No. | Description | Price |
|---|---|---|
| 242755ER | Wheel of fortune kit | $9.95 |
| 198791ER | 9 volt battery | 2.85 |

## Police Siren

■ 17-piece kit

Enter the world of amazing electronic sounds and noises. Create and imitate sirens of all kinds by adjusting 3 controls on the circuit board. Powerful sound with a 2W amplifier on the PCB. Requires 8-14VDC @ 1A power supply (not included).

| Part No. | Description | Price |
|---|---|---|
| 239450ER | K2604 Police siren kit | $14.95 |
| 189325ER | 8-14VDC @ 1A power supply | 11.19 |

## Quartz Clock Mechanism

Quartz clock mechanism for your self-made clock or as a replacement for damaged wall clocks. Suspension clip included. Requires one AA battery (not included). Size: 2.2"L x 2.5"W x 0.6"T.

| Part No. | Description | Price |
|---|---|---|
| 239661ER | Clock mechanism | $3.49 |
| 249210ER | AA batteries (pack of 4) | 2.56 |

## Kids of all ages love to learn about hovercraft!

This super kit is fun to build and a "blast" to run, but there's a bonus: education! Through the kit's curriculum (available online), budding scientists and engineers will learn principles of electricity and circuits, propellers, conversion of energy and other core concepts. And at the end of the learning process, they'll have a cool, battery-powered hovering vehicle that can glide over any smooth surface, even water!

| Part No. | Description | Price |
|---|---|---|
| 285641ER | Hovercraft kit | $21.79 |

*More science kits are on the way in upcoming catalogs, so watch this space for new offerings.*

**The Best Values** We search the world to find you the best values!

**The Lowest Prices** We guarantee the lowest price in any catalog.

**60% More Products** We've added 60% in the last year.

**Immediate Availability** Same day shipping on orders placed before 6pm EST.

# Audio and Amplifier Kits

## FM Stereo Transmitter Mini

**37-piece kit**

Run your own FM radio station! Plug any stereo signal into this unit and it will be transmitted to any FM radio. Tuneable from 76–108MHz. Plug in a CD player or tape deck and you have a wireless link to an FM radio within 200 feet.

- Dimensions: 2.7"L x 2.0"W
- Separation 40dB

**Requires:** 9VDC power supply (recommend P/N 151095ER, pg 47)

| Part No. | Description | 1 | 10 |
|---|---|---|---|
| 151239ER | FMST-100 stereo kit | $29.95 | $26.95 |

## velleman 30-Watt Stereo Power Amplifier

**38-piece kit**

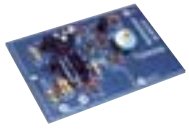
General purpose stereo amp for audio applications.

- RMS output: dual 15W @ 4Ω or dual 10W @ 8Ω
- Frequency bandwidth: 7Hz to 60kHz (-3dB) • Separation: 70dB
- Supply voltage: 24VCT @ 2A (recommend P/N 101864ER, pg 41) • Dimensions: 2.8"L x 2.0"W

| Part No. | Description | 1 | 10 |
|---|---|---|---|
| 129138ER | K4003 Stereo power amp. kit | $29.95 | $26.95 |

## velleman FM Transmitter

**26-piece kit**



Mini FM transmitter (100-108MHz) ideal for family broadcasts, baby monitors and security. May be received by any portable FM radio or tuner.

- Integrated pre-amplifier (sensitivity 5mV)
- Dimensions: 1.8"L x 2.8"W

**Requires:** 9-12VDC power supply (recommend P/N 20626ER, pg 100)

| Part No. | Product No. | 1 | 10 |
|---|---|---|---|
| 117604ER | K1771 — NEW | $12.49 | $11.29 |

# Receivers

## velleman RF Code Lock Receivers

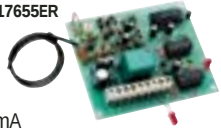
**75-piece kit**

- Use for car alarms, garage doors, door locks, etc.
- Over 8000 selectable codes
- Use several transmitters with one receiver
- Receivers feature relay output (10A change-over or pulse contact) • Range: 100 ft.

173235ER

**173235ER (2-channel)**
**117655ER (1-channel)**

117655ER



- 75 piece kit
- Weight: 0.5 lbs.

**Requires:** 12-16VDC @ 100mA (recommend P/N 100095ER, see website)

| Part No. | Description | 1 | 10 |
|---|---|---|---|
| 173235ER | K6727 2-ch receiver (RF) kit | $39.95 | $35.95 |
| 117655ER | K6707A 1-ch receiver (RF) kit | 29.95 | 26.99 |

# Distance, LED and Light Kits

## velleman Parking Radar

**55-piece kit**

Parking in tight places can be difficult, but this unit can tell you when you have come within an adjustable preset distance of the object behind you.

- Transmitter frequency: 40kHz
- Detection range: 5cm – 1.5m; angle: 5°
- PCB size: base (4.9"L x 1.9"W) sensor (3.8"L x 1.1"W)

**Requires:** 10-15VDC @ 16mA max (recommend P/N 100095ER, see website) or auto power plug (recommend P/N 115001ER, see website)

| Part No. | Description | Price |
|---|---|---|
| 129120ER | K3502 parking radar kit | $39.95 |

## Senix Distance Sensor Modules

134105ER

Sends out a sound wave 20 times per second and calculates the distance based on the time differential between send and receive signals. The distance is represented by an output voltage from 0 to 10VDC (P / N 134105ER) or RS-232 signal (P / N 151482ER).

151482ER

- Sensing range: 4" to 60"
- Sensor diameter: 1.8"
- Board size: 2.8"L x 1.8"W x 0.9"H
- One-year warranty

**Requires:** 15 to 24VDC @ 40mA (not included), (recommend P/N 114825ER, see website)

**134105ER:**

- Each 1VDC increment = 5.6" (e.g.: 1VDC output = 9.6")
- Output voltage: 0-10VDC • Weight: 0.2 lbs.

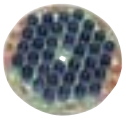
**151482ER:** • RS-232 output • Weight: 1.0 lbs.

**Includes:** Disk and computer cable

| Part No. | Description | 1 | 10 |
|---|---|---|---|
| 134105ER | Sensor – voltage output | $159.95 | $143.95 |
| 151482ER | Sensor – RS-232 output | 179.95 | 161.95 |

## IR LED Illuminator

**41-piece kit**



Ideal for CCD Cameras

- Improve low-light camcorder and CCD camera images without visible light
- 36 high powered infrared LEDs
- At 24' the beam is approximately 3.5' across
- Dimension: 2" diameter

**Requires:** 12-15VDC power supply (recommend P/N114825ER, see website)

| Part No. | Description | 1 | 10 |
|---|---|---|---|
| 157964ER | IR Illuminator kit | $16.95 | $15.29 |

## Ultrasonic Motion Detector Kit

**49-piece kit**

Detect motion / movement 13 - 23 ft. away and trigger an alarm w / this kit.

- 2 boards: one with matched pair of ultrasonic transducers to detect motion from 13 to 23 ft. away; 2nd board contains crystal controlled oscillator & all circuits
- Switchable latch, red LED indicator
- Solder pad output to drive external relay or circuits
- Size: main board: 2.8"L x 2.0"W x 0.8"H; transducer board: 2.8"L x 0.6"W x 0.9"H

**Requires:** 9V battery (recommend P/N 151095ER, pg 47)

| Part No. | Description | 1 | 10 |
|---|---|---|---|
| 125090ER | Ultrasonic alarm kit — NEW | $29.95 | $26.95 |

## velleman Scrolling Message Kit

**76-piece kit**

Create your own scrolling message with this 35-LED graphic display kit. Press "SET" to change a particular character, "UP" or "DOWN" arrow to select the character, and end your scrolling message with the "<" character.

- Max.16 characters • Adjustable scrolling speed
- 35-LED display • Size: 3.5"L x 2.6"W x 1.8"H

**Requires:** 9 to 12VDC @ 20mA (recommend P/N 133891ER pg 38)

| Part No. | Product No. | Wt. (lbs.) | 1 | 10 |
|---|---|---|---|---|
| 200310ER | MK124 — NEW | 0.2 | $24.95 | $22.45 |

## Order this lightbulb kit, and watch a kid's eyes light up!

Do It Yourself!

Junior scientists can walk in the footsteps of Edison with this hands-on educational kit. The invention of the light bulb revolutionized the world, and recreating the great inventor's thought process could spark a life-long interest in science and technology.

The included booklet and kit components provide a complete learning experience, from basic electricity to the effects of vacuum and different filament materials. Whether as a gift or as the basis of a prize-winning Science Fair presentation, this kit is the perfect choice for "bright" kids! Plus, the refurbishment pack (available separately) includes all materials needed to reuse the kit, again and again!

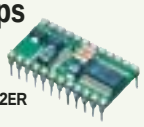
| Part No. | Description | Price |
|---|---|---|
| 285595ER | Build your own lightbulb kit | $54.95 |
| 285616ER | Refurbishment pack for kit | 14.49 |

*Attention teachers and group leaders: Multi-packs of this kit are available for classroom use, complete with a valuable teacher's guide. Call today for details and special pricing!*

# PARALLAX BASIC Controllers and Engineering Modules

## BASIC Stamps

127693ER

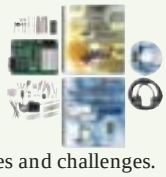

130892ER

BASIC Stamps are small computers using a variation of BASIC to control execution of many applications. The BS1-IC has 8 I/O lines, while the BS2-IC has 16 I/O lines which can be connected directly to buttons, LEDs, registers, and many other TTL level devices. Store data in the EEPROM before downloading a BASIC program.

| Specifications: | 127693ER | 130892ER |
|---|---|---|
| EEPROM | 256 bytes | 2048 bytes |
| RAM | 16 bytes | 32 bytes |
| Cur. Draw @ 5V | 2mA run/20µA | 8mA run/100µA |
| Microcontroller | PIC16C56 | PIC16C57 |
| Program speed | 2000/sec. | 4000/sec. |
| # of I/O Pins | 8 | 16 + 2 serial |
| Package | 14-pin SIP | 24-pin DIP |

| Part No. | Parallax No. | 1 | 10 |
|---|---|---|---|
| 127693ER | BS1-IC | ~~$39.95~~ $28.95 | $28.29 |
| 130892ER | BS2-IC | 48.95 | 43.95 |

### BS2 Educational Starter Kit



"Getting Started" kit is enhanced to include the What's a Microcontroller? (WAM) curriculum and includes all of the BASIC Stamp hardware required to complete the activities and challenges.

**Includes:** BASIC Stamp 2 module, Board of Education Programming Board, BASIC Stamp Manual, CD-ROM, jumper wires and a serial cable

| Part No. | Parallax No. | 1 | 10 |
|---|---|---|---|
| 282829ER | 27207 | $158.95 | $152.95 |

## Board of Education Full Kit

The new Board of Education has two major changes. The jumper will select either Vdd (5V) or Vin (unregulated input voltage) to power the servos and the three-position power switch is either off (0), power to everything but servo connectors (1) or power to everything (2).

- Mechanically interlocked power supply to prevent dual connection of wall pack and 9V battery
- DB9 connector for BS2-IC programming and serial communication during run time
- Female 10-pin dual row connector for optional AppMods
- P0 – P15 I/O pins

**Includes:** Board of Education carrier board, BASIC Stamp 2 module, pluggable wires, serial cable, CD-ROM and power supply

| Part No. | Parallax No. | 1 | 10 |
|---|---|---|---|
| 283101ER | 28102 | $118.95 | $96.99 |

## BASIC Stamp 2P Modules

184911ER

New commands for HD44780 compatible LCDs, Dallas Semiconductor 1-wire & Philips I2C parts.

- RAM size: 38 bytes
- Program execution speed: 12,000 instructions/sec.
- Scratch pad RAM: 128 bytes
- Program size: 8 x 2k bytes, 4,000 instructions
- Current draw @ 5V: 40mA run; 400µA sleep

**184911ER:** • Number of I/O pins: 16 + 2 serial
**184920ER:** • Number of I/O pins: 32 + 2 serial

| Part No. | Parallax No. | 1 | 10 |
|---|---|---|---|
| 184911ER | BS2P24-IC 24-pin | $78.95 | $70.95 |
| 184920ER | BS2P40-IC 40-pin | ~~$97.95~~ 87.95 | 79.95 |

## BASIC Stamp Prototyping Boards

164726ER

- Easy use of Stamp with prototyping area, 9-volt battery clips, I/O header, reset button, and programming connector

**130921ER:** Use w/ P/N 130892ER, top
**164726ER:** Use w/ P/N 127693ER and 130892ER

| Part No. | Parallax No. | 1 | 10 |
|---|---|---|---|
| 130921ER | 27120 | $23.95 | $22.95 |
| 164726ER | 27130 | 58.95 | 52.95 |

## Stamp Works

Go beyond theory, into a well-written collection of 32 experiments that will teach you first class BASIC Stamp programming. Get the most out of the BASIC Stamp by connecting to active & passive components.

| Part No. | Parallax No. | Price |
|---|---|---|
| 184946ER | 27297 | $348.95 |

## 50MHz BASIC Stamp 2SX Module

- Microcontroller: Ubicom SX28AC
- Program execution speed: 10,000 instructions/sec.
- EEPROM program size: 8 x 2k bytes, 4,000 instructions
- Current draw @ 5V: 60mA run/200µA sleep
- RAM size: 32 bytes
- Volts required: 5-12 VDC
- Scratch pad RAM: 64 bytes
- Number of I/O pins: 16 + 2 serial

| Part No. | Parallax No. | Description | Size | 1 | 10 |
|---|---|---|---|---|---|
| 159775ER | BS2SX-IC 24-pin | BS2-IC with additional RAM & EEPROM | 1.2"L x 0.6"W | $58.95 | $52.95 |

**Log on today for more kits @ www.Jameco.com/Kits**

# Robotic Kits

## OWI Robotic Arm Trainer

△ *109-piece kit*

### *Five Axes of Motion*

157366ER

159345ER

Test your motor skills as you build and control the arm. This unit can be commanded or instructed through its five-switch wired controller with lights to grab, release, lift, lower, rotate wrist, and pivot sideways.

- Max. length outwards: 14.2"
- Max. height upwards: 20.1"
- Max. lifting capacity: 4.6 oz.
- Shoulder movement @ 120˚
- Elbow moving range @ 135˚
- Grip opens to 2" wide
- Wrist rotation clockwise or counter clockwise @ 340˚
- Rotates left to right at the base @ 350˚
- Wt.: 4.5 lbs.

**Requires:** 4 D batteries (not included)

| Part No. | Description | Price |
|---|---|---|
| 157366ER | Robotic arm kit (unassembled) | $74.95 |
| 159345ER | Controller sftwr (DOS 4.2 & Up, WIN 95/98) | 84.95 |

## OWI Line Tracking Robot

△ *134-piece kit*

Watch as this robot follows a black line you specify. Utilizes infrared light to detect the line and control direction. This educational kit utilizes the same line follow principle of many industrial robots.

- Dimensions: 12.0"L x 7.0"W x 3.5"H

| Part No. | Description | Weight | Price |
|---|---|---|---|
| 140839ER | Line tracker kit | 1.2 lbs. | $49.95 |

## Obstacle Avoidance Robot

△ *107-piece kit*

Six crank motion legged robot utilizes an infrared light sensing system to find obstacles and maneuvers itself around them. This IR detection kit includes an infrared diode, photo diode, IC, 2 DC motors and all hardware.

- Dimensions: 12.0"L x 7.0"W x 3.5"H

| Part No. | Description | Weight | Price |
|---|---|---|---|
| 140821ER | Spider kit | 1.2 lbs. | $59.95 |

## High-Efficiency Robotic Servo Motor

- Supply voltage: 4.8-6 volts
- Torque: 49 oz.-in. @ 4.8V
- Speed: 16 seconds to 60˚
- Size: 0.8"W x 1.4"D x 1.6"H

| Part No. | Mfr. Cross Ref. | 1 | 10 |
|---|---|---|---|
| 157067ER | 14500 | $19.95 | $17.95 |

## 8-Pitch Gears and Gear Set

- Works with DC motors with 0.08" shaft diameter
- Heavy-duty plastic construction
- Pitch: 0.125"

**Includes**: 2 each of the following: T10, T20, T30, T40, T50 and 10 bushings

| Part No. | Mfr. Cross Ref. No. | Description | 1 | 10 |
|---|---|---|---|---|
| 131801ER | GA1 | Gear set – 20 pieces (see description above) | $7.99 | $7.29 |

## 16-Pitch Sprocket Set and Chain

**14-piece sprocket set includes:**

1 each of the following: 8, 9, 10 teeth at ⅛" bore size; 12, 15, 16, 18, 20, 24, 30, 32, 36, 40 and 48 teeth at ¼" bore size

| Part No. | Mfr. Cross Ref. No. | Description | 1 | 10 |
|---|---|---|---|---|
| 168276ER | 8890 | Sprocket set - 14 pieces (description above) | $29.49 | $26.49 |

# Robotic Kits (continued)

## Giant Robotic Ball-Bearing Servo Motor

Perfect for large robotic projects where power is a must.

- Power supply volt.: 4.8-6 volts
- Torque: 161 oz.-in.
- Speed: 19 seconds to 60˚
- Can be operated by Servo controllers P/Ns 153648ER & 151001ER, pg 45 and 157059ER, (see website)

| Part No. | Description | 1 | 10 |
|---|---|---|---|
| 166351ER | Giant robotic servo — NEW | $49.95 | $44.95 |

## Hub and 48-Pitch Gear Set

- Low coefficient of friction requires little or no lubrication
- Residual stress removed by annealing process

**168284ER:** 12-piece gear set includes 1 each of the following: 10 teeth at 3/32" bore size; 14 and 16 teeth at 1/8" bore size; 20, 24, 30, 36, 44, 54, 66, 84 and 100 teeth at 1/4" bore size

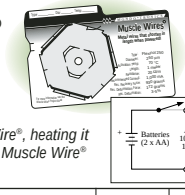
157104ER

168284ER

| Part No. | Description | 1 | 10 |
|---|---|---|---|
| 157104ER | 1/4" bore aluminum mounting hub w/ set screws — NEW | $4.95 | $4.49 |
| 168284ER | Gear set - 12 pieces (see description above) — NEW | 39.95 | 34.95 |

*More Kits @ www.Jameco.com/Kits*

## MONDO•TRONICS Flexinol Muscle Wires®



These unique nickel-titanium alloy Muscle Wires® actually shorten in length when electrically powered, and can lift thousands of times their own weight. Length: 1 meter.

***How it works…*** *Pressing the switch lets power flow from the batteries through the Muscle Wire®, heating it and causing it to contract and raise the lever and lift the weight. When power is removed, the Muscle Wire® cools and relaxes, and the weight helps it return to its starting position.*

| Part No. | Desc. | Linear Wire Dia. (microns) | Typical Resistance (ohm/m) | Deform Current (mA) | Recovery Weight* (grams) | Weight* (grams) | Typical Rate** | Pricing 1 | Pricing 10 |
|---|---|---|---|---|---|---|---|---|---|
| 141321ER | 100LT | 100 | 150 | 180 | 28 | 150 | 33 | $15.95 | $14.49 |
| 141874ER | 150LT | 150 | 50 | 400 | 62 | 330 | 20 | 16.95 | 15.29 |
| 160055ER | 375LT | 375 | 8 | 2750 | 393 | 2000 | 4 | 19.95 | 17.95 |

* *Multiply by 0.0098 to get force in Newtons* ** *Cycles per minute, in still air, at 20˚ Centigrade*

## Flex Sensor

- Nominal resistance:10kΩ
- Max. resistance: 30kΩ to 40kΩ, proportional to the degree of flexing or bending
- Applications: virtual reality data gloves, robotic, bio-metric, physics and engineering

| Part No. | Description | Price |
|---|---|---|
| 150551ER | Flex sensor | $12.95 |

## Climax Spider Shaft Couplers

**209285ER/106606ER:**

- 1 set screw per hub
- Hub OD: 0.625"Dia.
- Hub length: 0.56"

**138288ER:**

- 2 set screws (10-32 x 1/8)
- Size: 0.75"L x 0.5"D

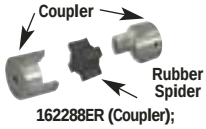
209285ER

138288ER

| Part No. | Description | 1 | 10 | 100 |
|---|---|---|---|---|
| 209285ER | .156" shaft hub | $.85 | $.65 | $.39 |
| 138288ER | .250" sleeve coupler | 4.49 | 4.05 | 3.65 |

## Spider Couplers

- Used with motors
- 1 set screw/hub
- Hub OD: 0.625" Dia.
- Hub length: 0.56"
- Parts sold individually




162288ER (Coupler); 162000ER (Spider)

| Part No. | Description | 1 | 10 | 50 |
|---|---|---|---|---|
| 162288ER | .125" (3.18 mm) hub | $1.35 | $1.15 | $.86 |
| 161998ER | .197" (5.00 mm) hub | 1.09 | .89 | .59 |
| 162270ER | .250" (6.35 mm) hub | 1.35 | 1.19 | 1.09 |
| 162000ER | Rubber spider | 1.29 | 1.15 | 1.05 |

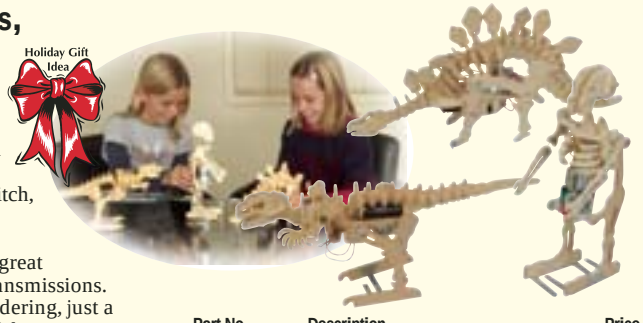
## Advanced Toddler Robot Kit

Walking robots have mechanical and software interdependencies that require in-depth examples and explanation. The Advanced Robotics text is an introduction to the Toddler robot's basic movements. Students using the Toddler robot will learn advanced embedded programming with BASIC, efficient code development, sensor feedback, and general control. Because of the number of possible movements, we consider the Toddler to be appropriate for those aged 14 and above.

**Includes:** 155-page Advanced Robotics text in the Stamps in Class style and the 351-page BASIC Stamp Manual

| Part No. | Parallax No. | Weight | 1 | 10 |
|---|---|---|---|---|
| 282837ER | 27311 | 10.5 lbs.... | $248.95 | $236.49 |

## Motorized wooden kits, ideal for your child.




Your child will love building these kits and watching them walk. These kits come with "kid friendly" pre-punched wooden parts, gearbox, gears, shafts, switch, motor, and battery holder. A marvelous educational science project for ages 8 and up, and a great way to learn about gears and transmissions. These kits require no glue or soldering, just a few simple hand tools, and 2 AA batteries, (not included). Your kids will be building these kits in no time.

- Gear driven transmission
- Requires: knife, screw driver, and long-nose pliers

| Part No. | Description | Price |
|---|---|---|
| 242915ER | Stegosaurus kit | $16.95 |
| 242923ER | Tyrannosaurus kit | 16.95 |
| 242894ER | Skeleton kit — NEW | 16.95 |
| 249210ER | AA batteries (pack of 4) | 2.56 |

*Over 99% of our products are in stock! Place your order by 6PM EST for same business day shipment.*
*1-800-831-4242 www.Jameco.com*

## Boe-Bot Full Kit

Now with Robotics text v2.0! The new text includes 41 activities for the Boe-Bot and PBASIC 2.5 source code support. The Boe-Bot's flexibility stems from the fact that it's a rolling Board of Education. The Board of Education (and BS2-IC) may be removed to be used as your platform for the other *Stamps in Class* curriculum. The robot may be programmed to follow a line, solve a maze, follow light, or communicate with another robot by following the instruction of the Robotics text. Requires 4AA batteries (not included).

| Part No. | Parallax No. | 1 | 10 |
|---|---|---|---|
| 282933ER | 28132 | $228.95 | $217.49 |

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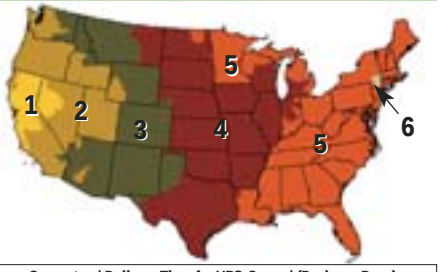


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| | | |
|---|---|---|
| 1 day | 2 days | 3 days |
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Orders received Mon.-Fri. by 6:00 p.m. Eastern Standard Time will be shipped the same day. Orders received Saturday and Sunday will ship the following Monday (except on holidays). If we are unable to fill your order on the day received, we will send you a gift certificate worth $5.00 towards your next Jameco purchase. This offer does not apply to orders waiting for credit approval or backordered items.

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### 4

| ITEM NO. | QTY. | PART NUMBER | DESCRIPTION | PAGE NO. | WEIGHT (LBS.) | UNIT PRICE | TOTAL |
|---|---|---|---|---|---|---|---|
| 1 | | | | | | | |
| 2 | | | | | | | |
| 3 | | | | | | | |
| 4 | | | | | | | |
| 5 | | | | | | | |
| 6 | | | | | | | |
| 7 | | | | | | | |
| 8 | | | | | | | |
| 9 | | | | | | | |
| 10 | | | | | | | |
| 11 | | | | | | | |
| | | | | TOTAL WEIGHT | | SUB-TOTAL | |

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| | |
|---|---|
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# Miscellaneous Kits

## Now kids can learn about alternative energy, hands-on!

*Motor* *Solar Cells* *Solar Oven* *Hygrometer* *Windmill* *Compass* *Solar Train*

***The Power House provides more than an education in new, Earth-friendly energy sources: it's an experience!***

Designed by a renowned physicist, this set leads the student through a fascinating story while teaching the fundamentals of solar power, wind power, and energy from other next-generation sources. Tons of activities and experiments are presented in an easy, step-by-step format, including a solar cooker and hot-water tank, an electric motor, a windmill, a sail-car, and lots more. Who knows? It may inspire your budding scientist to pioneer the next breakthrough in clean, renewable energy!

| Part No. | Description | Kit Pieces | Difficulty Level | Price |
|---|---|---|---|---|
| 307731ER | Solar house kit | 90+ | Beginner | $139.95 |

## Teach kids the history of "instant messaging", circa 1844!

Junior scientists can walk in the footsteps of Samuel Morse, inventor of the telegraph. His nifty invention changed the 19th century as much as the telephone did the 20th century and as the internet is changing the 21st. With this kit, they'll wind coils (with the included arbor, to ensure success), tinker with electromagnetism and magnetic fields, build a buzzer and a relay, dabble in Morse Code and learn about the scientific methods used by great inventors. And when they're done, they'll be the proud owners of a working model telegraph system! Superb documentation leads builders through the entire educational experience, step-by-step.

*Attention teachers and group leaders: Multi-packs of this kit are available for classroom use, complete with a valuable teacher's guide. Call today for details and special pricing!*

Beginner Level

| Part No. | Description | Kit Pieces | Difficulty Level | Price |
|---|---|---|---|---|
| 285624ER | Telegraph kit | 15 | Beginner Was ~~$54.95~~ | $49.95 |

## Basic Analog & Digital Parts & Text V1.2

Covers the essentials of 8-bit A / D & D / A conversion using a BASIC Stamp. Introduces PBASIC commands for A / D conversion with resistor / capacitor circuits, interfacing an ADC0831 8-bit A / D converter, scaling analog outputs into meaningful digital values, analyzing time-varying signals and using PWM as analog output.

| Part No. | Parallax No. | Price |
|---|---|---|
| 282950ER | 28155 | $43.95 |

## Magnify your interest in optics with these limited-supply lenses!

These high-quality items were originally manufactured for Vivitar®, one of the biggest names in premium lenses. These pieces range from 18mm up to 80mm, including one with an optical scale etched right on the glass. Experiment with different combinations and applications, research light amplification, build a magnifier, a projector, or a camera obscura! Spend some quality time with your interest in optics, and you'll soon be learning at the speed of light! Order now, as quantities are limited.

• Material: glass; P/N 285798ER acrylic

| Part No. | Description | Dioptic | Price |
|---|---|---|---|
| 285739ER | Plano, 27.9mm | 16.5x | $1.95 |
| 285798ER | Plano, 80.2mm | 5x | 2.95 |
| 285721ER | Double, 18.9mm | 20x | 1.79 |
| 285763ER | Double, 78.0mm | 15x | 3.95 |
| 285712ER | Optical scale, 18.0mm | — | 1.95 |

# Holiday Kits

## 3D Flashing Christmas Tree Kit

■ *36-piece kit*

- 16 flashing red LEDs • Low power consumption: 8mA
- Extra green and yellow LEDs to customize your tree
- Size: 3.1"L x 3.5"W x 4.0"H

**Requires:** 9V battery (recommend P/N 151095ER, pg 47)

Shown with Battery (not included)

| Part No. | Product No. | 1 | 10 |
|---|---|---|---|
| 211781ER | MK130 — NEW | $10.95 | $9.95 |

## Santa Sleigh and Reindeer Kit

▲ *201-piece kit*

Make sure Santa shows up in your house this year! 126 multi-colored LEDs animate the movement of the reins, sleigh and reindeer legs.

- Board size: 5.7"L x 3.2"W

**Requires:** 9V battery (recommend P/N 198791ER, pg 47) or 12VDC power supply (recommend P/N 100853ER, pg 38)

| Part No. | Product No. | 1 | 10 |
|---|---|---|---|
| 211764ER | MK116 — NEW | $22.95 | $20.65 |

## Deluxe Christmas Tree Kit ■ *208-piece kit*

- No need to remove battery when using external power supply
- 134 LEDs (green, yellow, and red) • Size: 3.2"W x 5.6"H
- Red LED simulates blinking candles

**Requires:** 12VDC@500mA power supply (recommend P/N 162996ER, pg 38) or 9V battery (recommend P/N 198791ER, pg 47)

| Part No. | Product No. | 1 | 10 |
|---|---|---|---|
| 236072ER | MK117 — NEW | $19.99 | $17.99 |

## Flashing Christmas Tree Kit ● *30-piece kit*

- 16 twinkling red LEDs
- Customize with included green and yellow LEDs
- Power: 9V battery (recommend P/N 198791ER, pg 47)

| Part No. | Product No. | Price |
|---|---|---|
| 147635ER | MK100 — NEW | $6.27 |

## Flashing Pumpkin Kit ■ *71-piece kit*

- Random flash effect simulates flickering candle
- 1 extra high intensity yellow LED illuminates the pumpkin
- 25 bright LEDs • On/Off switch • Size: 3.2"Hx4.0"Wx1.3"D

**Requires:** 9V battery (P/N 198791ER)

| Part No. | Product No. | 1 | 10 |
|---|---|---|---|
| 236081ER | MK145 | $9.99 | $8.99 |

## ISA Ethernet Card

3com

Hard to find for legecy systems.

- 16-bit ISA
- Complies with IEEE 802.3i 10Base-T and IEEE 802.3 10Mbps CSMA/CD local area network
- Plug and play
- Full-duplex support
- RJ-45/AUI/BNC port
- LED indicator for activity • Size: 6.1"L x 4.0"H

*For manual and drivers go to www.Jameco.com*

| Part No. | Product No. | Price |
|---|---|---|
| 289238ER | 3C509B-Combo | $9.49 |

## Weller® 40-Watt Soldering Station

- Lighted on/off switch
- Adjustable power from 5 watts to 40 watts
- 40 watt,120V @ 60Hz
- Temperature is electronically controlled from 350° to 850°F

- Size: 5.5"L x 4.5"W x 3.5"H • Wt.: 1.9 lbs.

**Includes:** ST3 1/8" screwdriver tip, soldering station and manual

| Part No. | Prod. No. | Description | 1 | 10 |
|---|---|---|---|---|
| 146595ER | WLC100 | Soldering station | $48.95 | $44.09 |

## Electric & Manual Desolder Pumps

19254ER

19166ER

305218ER

- Easily disassembled for cleaning
- Replacement tips available

**19254ER:**
- UL listed
- One-hand operation
- Size: 10.5"L x1.0"Dia.

NEW

**19166ER:** Size: 7.8"L x 0.8"Dia.

**305218ER/305226ER:** Size: 13"L x 1.0"Dia.

| Part No. | Description | 1 | 10 |
|---|---|---|---|
| 19254ER | Electric desolder pump | $26.95 | $23.95 |
| 19166ER | Manual desolder pump | 4.95 | 4.49 |
| 305218ER | Manual desolder pump | 18.95 | 17.99 |
| 305226ER | Man. desolder pump (ESD safe) | 14.75 | 13.99 |
| 19262ER | 1 tip for 19254ER | 4.95 | 4.49 |
| 22091ER | 2 tips for 19166ER | 4.49 | 3.95 |
| 307774ER | 1 tip for 305218ER | 4.55 | 4.35 |
| 307782ER | 1 tip for 305226ER | 2.39 | 2.27 |

*We know service is important. That's why we're available 24/7, offer friendly, knowledgeable technical support, and ship all orders on the same business day when placed before 6 PM EST. We hope you'll continue to reap the benefits Jameco offers.*

## The Inventor of the Modern Oscilloscope

***Howard Vollum (1913-1986)***

When Howard Vollum and his partner formed Tektronics, Inc. in 1946, it was with the goal of putting an oscilloscope within reach of all technicians who wanted one.

The new company took advantage of the vast war surplus store of electronics parts, and the now-famous Type 511 scope was born. In addition to being more affordable, the 511 had many huge improvements over its more expensive competitors, including wider bandwidth and an innovative display. Still, Vollum received a pessimistic prediction from the owner of his key competitor, Dr. Allen DuMont: "That's a nice scope, son. But nobody's ever going to spend only $700 for an oscilloscope."

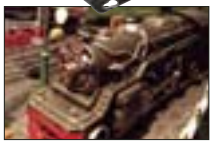
Eventually, Tektronics became a billion-dollar company with worldwide operations, supplying a wide range of electronic equipment to the marketplace.

***Look for other outstanding individuals in electronics and the moments they created in history mentioned throughout our catalog.***

## Create an R/C plane-cam, model train-cam, or even a French poodle-cam!

*This mini-wireless camera can be used for professional or home surveillance or... just to have fun!*

Now you can place a color video camera (with sound!) almost anywhere! This super-small (1" x 3/4" x 7/8"), 3 Lux wireless camera and receiver combo delivers sharp, full-motion video images at 380 lines of resolution. With its 150-foot (unobstructed) range, light weight, and 9-volt battery power, you can now add video capability to a world of hobby applications.



*Attach it to a toy boat and ride the waves of a true sailor.*

*Attach to a model train and get the "Engineer's point of view."*

| Part No. | Description | Price |
|---|---|---|
| 249025ER | Mini wireless color camera | $89.95 |

## 20MHz 2-Channel Oscilloscope

EZ DIGITAL

Blue CRT for higher resolution!

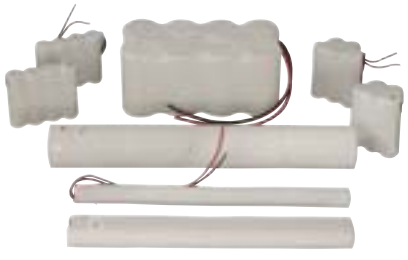
- 6" rectangular high-resolution blue CRT with internal graticule & scale
- Vertical deflection: 5mV/div to 5V/div in 10 calibrated steps
- Horizontal deflection: 0.2µs/div to 0.2s/div in 19 calibrated steps, 1-2-5 sequence
- Max. signal input voltage: 250V (DC and peak AC)
- ADD function measures sum of two signals
- Input voltage: 98-125VAC @ 1A, 198-225VAC @ 0.5A, 50-60Hz, 45W

**Includes:** Two X1/X10 40MHz probes, power cord, manual, and block diagram

| Part No. | Prod. No. | Description | Price |
|---|---|---|---|
| 136098ER | OS5020 | 20MHz scope | $399.95 |

## Rechargeable Battery Packs

Jameco rechargeable battery packs are available in many configurations and capacities. Each series-connected pack is available with 6" lead wires and 0.125"W x 0.4"L solder tab hook-ups. Available in economical NiCAD and powerful NiMH compositions.



***See page 46 for our new selection!***

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**The Best Values** We search the world to find you the best values!

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**60% More Products** We've added 60% in the last year.

**Immediate Availability** Same day shipping on orders placed before 6pm EST.

*Over 30 experiments included. Perfect for the young learner!*

## Knowledge is power! Hydrogen power!

***Hydrogen fuel cells will be an important part of the future for today's kids, and this kit is a great introduction to the next wave of automotive energy!***

The fuel system employs a blend of technologies, using solar cells, electrolysis and power storage to generate pollution-free get-up-and-go from distilled water. The result is an environmentally-friendly model car that moves out under its own on-board power.

More than 30 experiments in the full-color manual lead young learners through this state-of-the-art course in hydrogen-cell know-how!

| Part No. | Description | Kit Pieces | Difficulty Level | Price |
|---|---|---|---|---|
| 307723ER | Fuel cell car kit | 39 | Beginner | $139.95 |

## Hygro + Infrared Thermometer

Combination humidity meter plus infrared thermometer features a super large backlit dual display. The primary display is user selectable for IR or humidity, while the secondary display always displays ambient temperature. The infrared thermometer has a built-in laser pointer with an 8:1 distance to target ratio.

- Measures degrees Centigrade and Farenheit
- Remote humidity sensor with 39" coiled cable
- Humidity ranges: 10.0 to 95.0% with ±3.5% accuracy
- Air temperature ranges: -4˚F to +140˚F (-20˚C to +60˚C) with ±3˚F/2˚C accuracy
- IR temperature ranges: -58˚F to +932˚F (-50˚C to +500˚C); ±2% or ±4˚F/2˚C accuracy
- Auto power off
- Data hold and MAX

**Includes:** Stand, holster, probe, battery and case

| Part No. | Description | Size (WxDxH) | Weight | Price |
|---|---|---|---|---|
| 285974ER | Infrared thermometer — NEW | 2.8" x 1.4" x 5.9" | 0.5 lbs. | $148.95 |

## *Save up to 50% now on selected products!*

Look for Jameco's holiday picks throughout the catalog, marked with the ***Red Ribbon***. We have slashed prices just in time for the holidays, so make sure you pick up those stocking stuffers today!

Holiday Gift Idea

## Here's What's New

Over 720 Products Added!


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Switches ..... 22-24
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